ACIDIC PRECIPITATION IN ONTARIO STUDY

CUMULATIVE (28 DAY) PRECIPITATION CHEMISTRY LISTINGS 1988

JULY 1990

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Environnement

Ontario

Jim Bradley, Minister/ministre

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27525

ISSN 0824-880X (main series)
0835-475X (sub series)

ACIDIC PRECIPITATION IN ONTARIO STUDY

CUMULATIVE (28 DAY)

PRECIPITATION CHEMISTRY LISTINGS

1988

Report Prepared by:
Atmospheric Research and Planning Unit
Air Resources Branch
Ontario Ministry of the Environment

ARB-006-90

STANDARDS DEVELOPMENT BRANCH
135 ST. CLAIR AVENUE WEST
TORONTO, ONTARIO M4V 1P5

JULY 1990

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PIBS 1068
log 90-2207-006

ACKNOWLEDGEMENTS

This report was prepared by Diane Green of the APIOS Atmospheric Deposition and Chemistry Program. However, the data themselves are a product of the combined efforts of many individuals. Precipitation samples were collected by a large number of site operators, whose names cannot be individually mentioned here, under the coordination of the APIOS environmental technicians Scott Kennedy (in the Southwestern Region), Steve Elliott (in Southeastern Region), Wim Smits (in Northwestern Region), Bill Trayling (Northeastern Region), and J.P. Varto (in Central Region). Sample handling was carried out by Sue Lampinen and Gail Fielding. Chemical analyses were performed at the Laboratory Services Branch under the coordination of Frank Tomassini. Invaluable clerical and computer assistance were provided by Peter Maheras, Joseph Lamb and Roberto Banchon. All enquiries regarding the reported data should be directed to Neville Reid, Coordinator, Atmospheric Deposition and Chemistry Program, at (416) 326-1691.

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PART I

INTRODUCTION

INTRODUCTION

The data listed herein are a summary of the results acquired from the APIOS cumulative precipitation sampling network from January 1, 1988 to December 31, 1988. The sampler utilized for collection of wet cumulative deposition is the M.I.C. Type "A" collector (Sangamo). During May to October when precipitation is mainly in the form of rain, the Sangamo collector is equipped with a 34 cm x 61 cm polyethylene bag insert. For snow and snow/rain collection from November to April, deeper collection vessels are utilized (122 cm) with 34 cm x 122 cm polyethylene gas insert. The deeper collection vessel is utilized to reduce snow blow out. The period of accumulation per sample is 28 days.

All data presented in this report have been screened for validity. Remarks and qualifications have been appended to records, and/or results where necessary. The screening procedure involved checking each record for chemical analysis integrity (e.g. ionic balance, observed vs. theoretical conductance). Gross limits checks were applied to the results. Upper limits were determined as M + 2S where median (M) and scale (S) represent robust estimates of the mean and standard deviation respectively. Scale of the distribution was estimated from interquartile distance, i.e. S = 0.74 (3rd quartile - 1st quartile) based upon logarithmetic transformed results. In a situation where the distribution is significantly bounded by reported detection limits, S may be estimated as follows, S = 1.48 (3rd quartile - 2nd quartile). Lower gross limits were specified by the above method except for those parameters with minimum values near or at the detection limits (Cl, Mg, K, Na, Ph, Mn, Ni, Pb, V, Al, Cu, Zn, Fe, Cd). For these parameters a lower gross limit of zero was utilized. The data were also screened for outliers statistically by applying the Dixon Ratio test to the highest and lowest values observed in each region on a monthly basis. Outliers were determined at the 95% level of confidence. Records and/or results deemed unreliable are flagged but not deleted. Detailed description of the validation procedures as applied to this data set is available from the Ministry upon request.

Station Identification

The station identification is defined by four descriptive fields (e.g., Dorset/Cumulative/Wet #20). The first field refers to the sampling location. The second and third fields describe the sampling internal and the sampling type (e.g., wet or dry) respectively. The last numeric field refers to the index code utilized on the location map. All precipitation chemistry listings are given in alphabetical order by station name within each region.

Cumulative Precipitation Chemistry Listings

Sample type, as coded in the data listings, represents the state of the collected sample at time of removal. The sample date represents the date on which the sample was removed from the sampler. All chemical analyses were done on unfiltered samples. Lab pH entries represent pH measurements obtained at the MOE Laboratory in Toronto.

Total hydrogen ion concentration is reported for either titration of the sample with NaOH to an end point pH of 8.3 or gran analysis titration. For a complete outline of lab analytical methodology please consult the Ontario Ministry of the Environment report "Outlines of Analytical Methods" coordinated by Water Quality Section, Laboratory Services Branch, June 1981.

Of the reported metals, aluminum, copper, iron and zinc were found to display significant adsorptive losses. As a result, a leach solution of 5% HNO_3 (1 litre) is placed in the emptied collection bag for 24 hours. The leach solution is then analysed for the above metals and a final metal concentration is then calculated. Prior to 1986, in the calculation of final metal concentration, if a detection limit (<T) was encountered, a value corresponding to one half the detection limit was utilized. As of 1986, <T values are no longer halved in these calculations.

Co-located with each sampler is a cumulative precipitation gauge which serves as a primary standard of precipitation during the collection period. However, if the cumulative gauge depth is missing or is thought to be inaccurate, then an approximate precipitation depth is determined. The approximation is made by accumulating the surrounding CLIMAT* station daily depth gauge results individually and then interpolating using a modified kriging method (1) to the APIOS station. Sometimes precipitation gauge results cannot be calculated by the above method, in which case the data are missing in the tables to follow.

Calculation of Equivalent Precipitation Depth (mm)

$$\text{Equivalent Precipitation Depth (mm)} = \frac{\text{Volume Collected (ml)} \times 30.8}{1000}$$

Calculation of Observed Sampling Efficiency

$$\text{\% Efficiency} = \frac{\text{Equivalent Precipitation Depth (mm)} \times 100\ \%}{\text{Gauge Depth (mm)}}$$

Field Comment Code Index

A - Insects in sample
B - Leaves in sample
C - Particulate in sample
D - Fibres in sample
E - Sample not submitted
F - Sampler malfunctioned
G - Sample spilled or leaked
H - Volume incorrect
I - Event(s) missed
J - Wet side open when not precipitating
K - No precipitation collected
L - Part of event missed
M - Dry side open when precipitating
P - Gauge depth incorrect
Q - Other

Office Comment Code Index

C - calculated/observed conductance discrepancy
H - calculated/observed pH discrepancy
J - pH large
M - poor ionic balance
N - abnormal sampler efficiency
T - free hydrogen exceeds total hydrogen
X - sample lost

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*

Environment Canada, Atmospheric Environment Service Meteorological Observations in Eastern Canada, Monthly Record.

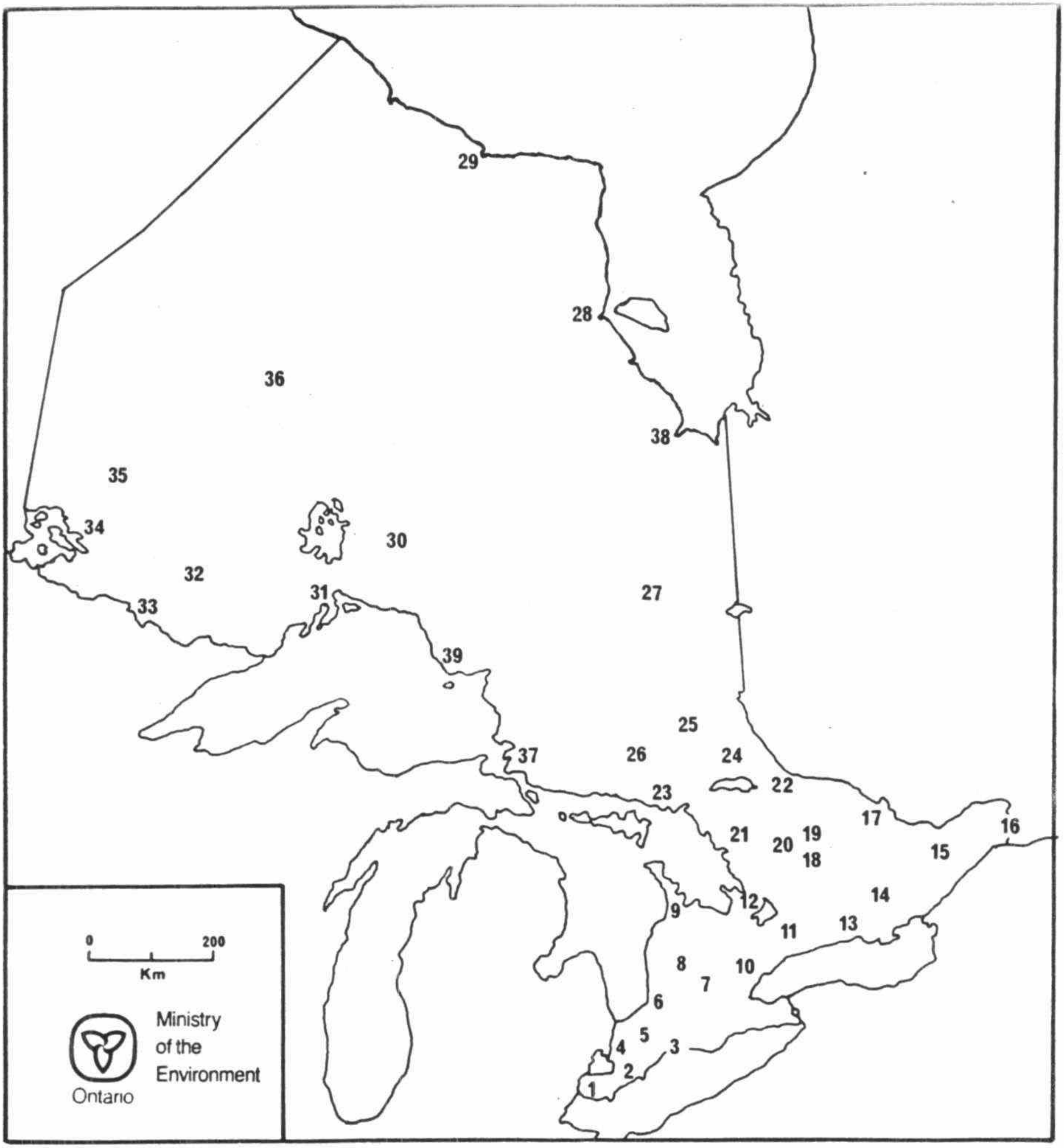
(1) Spatial Trend Analysis and Uncertainly Estimates of Acid Deposition Data in Ontario, A.J.S. Tang and W.H. Chan, reprint #85-6A.6, 78th Air Pollution Control Association Annual Meeting, Detroit, Michigan, June 16-18, 1985.

Analytical Result Remark Code Index

> - actual result greater than value reported
< - actual result less than value reported
T - actual result less than criterion of detection
W - no response, minimum possible result reported
A - approximate value
U - unreliable result
L - bag leach result not available
<L - bag leach result not available and precipitation sample result has been reported as a detection limit
LG - exceedance of lower gross limit checks
UG - exceedance of upper gross limit checks
D - outlier of Dixon Ratio Test
B - exceedance of gross limit checks and outlier of Dixon Ratio Test

PART II

STATION DESCRIPTION AND LOCATION MAP



1. Colchester*
2. Merlin
3. Pt. Stanley*
4. Wilkesport*
5. Alvinston
6. Huron Park
7. Waterloo
8. Palmerston*
9. Shallow Lake*
10. Milton (removed March '84)
11. Uxbridge*
12. Coldwater
13. Campbellford*
14. Cloyne* (repl. Kalladar, June '83)
15. Smith's Falls*
16. Dalhousie Mills*
17. Golden Lake*
18. Wilberforce
19. Whitney
20. Dorset*
21. McKellar*
22. Mattawa*
23. Killarney*
24. Bear Island
25. Gowganda*
26. Azure Lake (repl. Ramsey, June '83)
27. Moonbeam*
28. Attawapiskat (rem. Feb '84)
29. Winisk (rem. Dec '86)
30. Geraldton (replaced Nakina, Aug '83)
31. Dorion*
32. Quetico Centre*
33. Lac la Croix
34. Experimental Lakes Area
35. Ear Falls*
36. Pickle Lake*
37. Turkey Lake*
38. Moosonee* (installed October '85)
39. Otter Island* (summer only)
40. Sutton, Quebec (Intercomparison Site)

* indicates both a wet and dry deposition network site

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS-ACIDIC PRECIPITATION IN ONTARIO STUDY
CUMULATIVE PRECIPITATION SITES

STATION ID	MOE REGION	STATION NAME	ELEV (M)	LATITUDE (NORTH)	LONGITUDE (WEST)	UTM GRID CO-ORDINATES (NORTHING)	(EASTING)
000001-01-01-1041	SOUTHWESTERN	COLCHESTER	183	41°59'15"	82°55'41"	4649973	340284
000001-01-01-1051	SOUTHWESTERN	MERLIN	191	42°14'47"	82°13'28"	4677645	398983
000001-01-01-1061	SOUTHWESTERN	PORT STANLEY	213	42°40'22"	81°09'55"	4724277	486457
000001-01-01-1071	SOUTHWESTERN	WILKESPORT	183	42°42'11"	82°21'13"	4728515	389135
000001-01-01-1081	SOUTHWESTERN	ALVINSTON	221	42°49'00"	81°50'05"	4740580	431759
000001-01-01-1091	SOUTHWESTERN	SHALLOW LAKE	229	44°34'54"	81°06'58"	4936270	490782
000001-01-01-1101	SOUTHWESTERN	PALMERSTON	389	43°48'19"	80°54'12"	4850035	507776
000001-01-01-1191	SOUTHWESTERN	HURON PARK	250	43°17'28"	81°30'03"	4793050	459370
000001-01-01-2021	SOUTHWESTERN	WATERLOO	343	43°28'39"	80°35'10"	4813710	533474
000001-01-01-3011	CENTRAL	DORSET	320	45°13'26"	78°55'50"	5009656	662429
000001-01-01-3061	CENTRAL	UXBRIDGE	244	44°12'46"	79°12'38"	4896847	642958
000001-01-01-3071	CENTRAL	WILBERFORCE	396	45°00'54"	78°12'56"	4988172	719406
000001-01-01-3081	CENTRAL	CAMPBELLFORD	175	44°17'28"	77°47'33"	4907783	277202
000001-01-01-3101	CENTRAL	COLDWATER	280	44°37'31"	79°32'08"	4942152	616174
000001-01-01-4061	SOUTHEASTERN	SMITH'S FALLS	122	44°56'41"	75°57'48"	4977044	423999
000001-01-01-4071	SOUTHEASTERN	DALHOUSIE MILLS	69	45°19'00"	74°28'13"	5018048	541521
000001-01-01-4081	SOUTHEASTERN	GOLDEN LAKE	160	45°36'48"	77°12'03"	5053226	328397
000001-01-01-4091	SOUTHEASTERN	CLOYNE	259	44°49'10"	77°11'07"	4964999	327221
000001-01-01-4161	SOUTHEASTERN	PT.PETRE	84	43°50'20"	77°09'10"	4856016	326930
000001-01-01-5011	NORTHEASTERN	MCKELLAR	244	45°31'15"	79°55'19"	5041158	584196
000001-01-01-5021	NORTHEASTERN	KILLARNEY	183	45°58'20"	81°29'18"	5090859	462167
000001-01-01-5031	NORTHEASTERN	MATTAWA	198	46°16'39"	78°49'19"	5126968	667810
000001-01-01-5041	NORTHEASTERN	BEAR ISLAND	305	46°58'22"	80°04'30"	5202336	570362
000001-01-01-5061	NORTHEASTERN	GOWGANDA	343	47°39'04"	80°46'32"	5277329	516647
000001-01-01-5071	NORTHEASTERN	MOONBEAM	244	49°19'40"	82°01'10"	5464175	425924
000001-01-01-5091	NORTHEASTERN	WHITNEY	412	45°32'21"	78°15'35"	5046283	713946
000001-01-01-5141	NORTHEASTERN	TURKEY LAKES	440	47°03'15"	84°24'20"	5214246	697468
000001-01-01-5151	NORTHEASTERN	AZURE LAKE	427	47°28'13"	81°52'30"	5257579	434062
000001-01-01-5161	NORTHEASTERN	MOOSONEE	8	51°12'35"	80°42'20"	5672970	520568
000001-01-01-6011	NORTHWESTERN	DORION	244	48°50'33"	88°36'45"	5410982	381684
000001-01-01-6031	NORTHWESTERN	EAR FALLS	350	50°38'31"	93°13'13"	5609814	484424
000001-01-01-6041	NORTHWESTERN	PICKLE LAKE	360	51°02'41"	90°12'04"	5658308	696198
000001-01-01-6061	NORTHWESTERN	LAC LA CROIX	368	48°21'14"	92°12'32"	5355719	558611
000001-01-01-6071	NORTHWESTERN	QUETICO CENTRE	420	48°24'44"	91°12'08"	5363461	633036
000001-01-01-6091	NORTHWESTERN	E.L.A.	123	49°39'50"	93°43'16"	5501292	447960
000001-01-01-6111	NORTHWESTERN	OTTER ISLAND	204	48°06'50"	86°04'25"	5329155	568954
000001-01-01-6121	NORTHWESTERN	GERALDTON	350	49°48'18"	86°45'52"	5516758	516950
000001-01-01-7011	QUEBEC	SUTTON	243	45°04'35"	72°40'35"	4993846	682898

PART III

CENTRAL REGION
CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=CE STATION=CAMPBELLFORD MIC TYPE A SITE NO.1 --------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

  00094434  AP02548     PR     02      01    JAN 26, 1988 DEC 31, 1987  1900   2050    3                 2     36.0      61.09
  00094435  AP02548     PR     02      01    FEB 23, 1988 JAN 26, 1988  1720   1900    2                 2     66.0      56.14
  00094436  AP02548     PR     02      01    MAR 22, 1988 FEB 23, 1988  1615   1720    3                 2     11.0      52.36
  00094537  AP02639     PR     02      01    APR 19, 1988 MAR 22, 1988  1815   1623    1                 3      6.0        .
  00094539  AP02639     PR     02      01    MAY 17, 1988 APR 19, 1988  1830   1815    1                 3     35.0      53.15
  00094564  AP02780     PR     02      01    JUN 15, 1988 MAY 17, 1988  1845   1830    1                 3     34.0        .
  00094565  AP02780     PR     02      01    JUL 12, 1988 JUN 27, 1988  2215   1515    1                 3     14.0      95.70
  00024702  AP02898     PR     02      01     AUG 9, 1988 JUL 12, 1988  2100   2215    1                 3     29.0        .
  00024703  AP02898     PR     02      01     SEP 6, 1988  AUG 9, 1988  0100   2100    1                 3     94.0      48.23
  00106119  AP03182            02      01    SEP 19, 1988  SEP 6, 1988  1640   1640    1                 *     18.2        .
  00024704  AP02898     PR     02      01     OCT 4, 1988 SEP 19, 1988  1815   1640    1                 3     73.0      86.32
  00024705  AP02898     PR     02      01     NOV 1, 1988  OCT 4, 1988  1840   1815    1                 3     57.0      52.09
  00024716  AP02940     PR     02      01    NOV 29, 1988  NOV 1, 1988  1100   1855    1                 3     67.0      75.39
  00094581  AP02961     PR     02      01    DEC 28, 1988 NOV 29, 1988  1236   1105    3          1      3     65.0      60.60
   SAMPLE  FIELD    OFFICE  VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE    SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML            UMHO/CM                                 MG/L          MG/L          MG/L

  00094434          Z        714        20.00           4.62       ****            1.90          0.46          0.42
  00094435                  1203        32.50           4.29       ****            2.40          0.75          0.38
  00094436                   187        52.00           4.11       ****            4.45          1.41          1.12
  00094537   EK               ****          ****            ****     ****              ****          ****          ****
  00094539   ACD       H     604        56.50     UG    6.36       ****      UG   11.90    UG    1.88    UG    3.26
  00094564   E                ****          ****            ****     ****              ****          ****          ****
  00094565   IQ        Z     435        39.50           4.36       ****            6.85          1.02          1.52
  00024702   EF                 .           ****            ****     ****              ****          ****          ****
  00024703   Q         N    1463        22.00           4.43       ****            2.10          0.30          0.18
  00106119   EF        Z      ****          ****            ****     ****              ****          ****          ****
  00024704   F         Z    2038        39.00           4.13       ****            3.85          0.51          0.24
  00024705   FJ              958        31.00           4.25       ****            2.40          0.67          0.28
  00024716                  1627        38.50           4.36       ****            3.05          0.57          0.54
  00094581   G              1279        34.00           4.33       ****            2.75          0.69          0.64
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                                  ONTARIO MINISTRY OF THE ENVIRONMENT
                              APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                             DATA LISTING
                                  CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------ REGION=CE STATION=CAMPBELLFORD MIC TYPE A SITE NO.1 ------------------------------------

SAMPLE    CHLORIDE      KJELDAHL      MAGNESIUM     POTASSIUM     SODIUM        AMMONIUM      PHOSPHOR      MANGANESE
NUMBER
          MG/L          MG/L          MG/L          MG/L          MG/L          MG/L          MG/L          MG/L

00094434          0.43  D      1.640         0.040         0.065         0.205         0.260  <T     0.002         0.003
00094435          0.35         0.430         0.045         0.030         0.185         0.310  <T     0.006         0.003
00094436          0.58         0.940         0.125         0.045         0.315         0.600  <T     0.008         0.009
00094537          ****          ****          ****          ****          ****          ****          ****          ****
00094539  D       0.45  U      3.050  B      0.380  D      0.280  UG     0.165  UG     2.660  U      0.345  UG     0.015
00094564          ****          ****          ****          ****          ****          ****          ****          ****
00094565          0.25         1.280         0.180         0.130         0.090         0.966         0.024         0.012
00024702          ****          ****          ****          ****          ****          ****          ****          ****
00024703          0.07         0.250  <T     0.025         0.030  <T     0.015         0.226  <W     0.002         0.001
00106119          ****          ****          ****          ****          ****          ****          ****          ****
00024704          0.14         0.520         0.025         0.030         0.030         0.466  <W     0.002         0.002
00024705          0.14         0.480         0.045         0.030         0.030         0.450  <W     0.002         0.003
00024716          0.21         0.390         0.050         0.030         0.100         0.310  <T     0.004         0.003
00094581          0.45         0.370         0.060         0.050         0.195         0.254  <T     0.005         0.004
SAMPLE    NICKEL        ZINC          IRON          LEAD          VANADIUM      ALUMINUM      COPPER        ACIDITY GRAN
NUMBER
          MG/L          MG/L          MG/L          MG/L          MG/L          MG/L          MG/L          UG/L

00094434        0.0004  1DT    0.009         0.050  <      0.002  <     0.0004  1DT    0.023  <     0.0005         52.30
00094435        0.0003  1DT    0.008         0.031         0.004  <     0.0004         0.018  <     0.0004         81.70
00094436        0.0006  UG     0.052         0.096  1DT    0.006  <     0.0004  1DT    0.041  1DT   0.0018        118.00
00094537          ****          ****          ****          ****          ****          ****          ****          ****
00094539  <W    0.0010  B      0.030  1DT    0.121  1DT    0.022  <T    0.0004  <T     0.056  <T    0.0023         27.50
00094564          ****          ****          ****          ****          ****          ****          ****          ****
00094565  <W    0.0010  <T     0.009         0.082  <T     0.038  <T    0.0004  <T     0.016  1DT   0.0019         79.20
00024702          ****          ****          ****          ****          ****          ****          ****          ****
00024703  <W    0.0001         0.012  1DT    0.006  |BL     ****  <T    0.0001         0.018  <T    0.0106         62.00
00106119          ****          ****          ****          ****          ****          ****          ****          ****
00024704  <T    0.0002  1DT    0.004  1DT    0.009  |BL     ****  <T    0.0001         0.013  1DT   0.0005        104.00
00024705  <T    0.0004  1DT    0.006  1DT    0.010  |BL     ****  UG    0.0005         0.033  1DT   0.0005         86.00
00024716  <T    0.0004         0.006  <T     0.020  |BL     ****  UG    0.0005         0.029  <T    0.0014         71.70
00094581  <T    0.0006         0.008  <T     0.019  1DT    0.002  UG    0.0005         0.022  <T    0.0011         70.50
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                                  ONTARIO MINISTRY OF THE ENVIRONMENT
                             APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                             DATA LISTING
                                  CUMULATIVE SAMPLING ANALYSIS RESULTS

--------------------------------------- REGION=CE STATION=COLDWATER MIC TYPE A SITE NO.1 ----------------------------------------

  SAMPLE   SUBMISSION LIS    PROJECT SUB           SAMPLE       EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
  NUMBER   NUMBER     SAMPLE CODE    PROJECT       REMOVAL      DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE          DATE                  HR     HR           EXP   REM.

 00076052  AP02475     PR     02      01     JAN 26, 1988 DEC 30, 1987  0800   1520    2                  2      43.0       81.08
 00076053  AP02483     PR     02      01     FEB 23, 1988 JAN 26, 1988  0745   0800    2           1      2      84.0       55.44
 00076061  AP02523     PR     02      01     MAR 22, 1988 FEB 23, 1988  0800   0745    3     1            2      13.0      108.75
 00076066  AP02552     PR     02      01     APR 19, 1988 MAR 22, 1988  0800   0800    3                  2      49.0       82.72
 00076076  AP02631     PR     02      01     MAY 17, 1988 APR 19, 1988  0800   0800    1                  3      50.0       87.10
 00076084  AP02679     PR     02      01     JUN 14, 1988 MAY 17, 1988  0800   0800    1                  3      13.0       85.06
 00076089  AP02703     PR     02      01     JUL 12, 1988 JUN 14, 1988  0800   0800    1                  3      33.0       89.04
 00076093  AP02744     PR     02      01      AUG 9, 1988 JUL 12, 1988  0800   0800    1           1      3     105.0       66.91
 00076096  AP02789     PR     02      01      SEP 6, 1988  AUG 9, 1988  0800   0800    1     1            3     151.0       92.71
 00076100  AP02823     PR     02      01      OCT 4, 1988  SEP 6, 1988  0800   0800    1                  3      54.0       37.07
 00076105  AP02854     PR     02      01      NOV 1, 1988  OCT 4, 1988  0800   0800    3                  3      90.0       92.19
 00076114  AP02924     PR     02      01     NOV 29, 1988  NOV 1, 1988  0800   0800    3                  2      84.0       57.49
 00042137  AP02940     PR     02      01     DEC 27, 1988 NOV 29, 1988  0845   0800    3                  2      55.9       73.89
  SAMPLE   FIELD    OFFICE   VOLUME        CONDUCT        LAB.PH       ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
  NUMBER   COMMENTS COMMENTS
                             ML            UMHO/CM                                   MG/L          MG/L          MG/L

 00076052    G                    1132            13.50          4.53        ****             1.15       0.37          0.16
 00076053                         1512            25.00          4.35        ****             1.50       0.65          0.18
 00076061                          459            26.00          4.48        ****             2.10       0.75          0.54
 00076066                         1316            40.50          4.32        ****             4.15       0.83          0.60
 00076076                         1414            30.00          4.54        ****             4.45       0.85          0.76
 00076084    A        H            359     LG      6.50    UG    5.39        ****        LG   1.00       0.24          0.26
 00076089                          954            35.00          4.34        ****             4.50       0.76          0.80
 00076093                         2281            58.00          3.97        ****        D    6.75       0.69          0.42
 00076096    A                    4545            21.00          4.40        ****             2.60       0.30          0.12
 00076100    JQ                    650            27.50          4.15        ****             3.20       0.44          0.12
 00076105                         2694            21.50          4.45        ****             1.80       0.38          0.18
 00076114    G                    1539            23.00          4.55        ****             2.60       0.53          0.56
 00042137    F                    1334            14.00          4.62        ****             1.55       0.47          0.42
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=CE STATION=COLDWATER MIC TYPE A SITE NO.1 --------------------------------------

SAMPLE NUMBER	CHLORIDE	KJELDAHL	MAGNESIUM	POTASSIUM	SODIUM	AMMONIUM	PHOSPHOR	MANGANESE
	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
00076052	0.10	0.390	0.030	<T 0.010	0.035	0.190	0.020	0.001
00076053	0.23	0.260	0.025	<W 0.005	0.095	0.170	<T 0.003	0.001
00076061	0.34	0.480	0.065	<T 0.020	0.135	0.420	<T 0.003	0.004
00076066	0.27	0.740	0.090	0.150	0.155	0.590	0.032	0.006
00076076	0.15	1.120	0.140	0.055	0.045	1.020	<T 0.006	0.011
00076084	<T 0.03	0.310	0.035	0.045	<T 0.015	0.184	<T 0.009	0.003
00076089	0.18	0.970	0.115	0.080	0.055	0.726	0.019	0.009
00076093	0.12	0.740	0.085	<T 0.025	<T 0.020	0.680	<T 0.003	0.003
00076096	UG 0.62	0.440	0.025	<T 0.020	<T 0.025	0.410	0.018	<T 0.002
00076100	0.10	0.280	<T 0.020	<T 0.020	<W 0.005	0.220	<W 0.002	<T 0.001
00076105	0.08	0.190	<T 0.020	<T 0.025	<T 0.010	0.206	<W 0.002	<T 0.001
00076114	0.25	UG 1.370	0.065	UG 0.130	0.405	0.326	0.013	0.004
00042137	0.29	0.380	0.040	0.025	0.100	0.270	<T 0.005	0.003

SAMPLE NUMBER	NICKEL	ZINC	IRON	LEAD	VANADIUM	ALUMINUM	COPPER	ACIDITY GRAN
	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
00076052	< 0.0002	< 0.002	0.025	0.004	< 0.0004	0.010	1DT 0.0009	52.50
00076053	< 0.0002	< 0.002	0.031	0.004	D 0.0005	1DT 0.012	1DT 0.0002	84.80
00076061	< 0.0002	1DT 0.006	0.027	1DT 0.014	< 0.0004	1DT 0.028	1DT 0.0008	58.60
00076066	0.0004	1DT 0.008	0.033	0.008	< 0.0004	0.016	< 0.0004	84.10
00076076	<W 0.0010	<T 0.011	<T 0.070	1DT 0.005	< 0.0004	0.042	<T 0.0011	55.70
00076084	<W 0.0010	<T 0.011	<T 0.021	1DT 0.042	<T 0.0004	<T 0.019	<T 0.0012	24.40
00076089	<W 0.0010	<T 0.006	0.077	1DT 0.013	<T 0.0004	<T 0.023	<T 0.0016	69.80
00076093	<W 0.0010	<T 0.003	0.033	1DT 0.009	<T 0.0004	<T 0.007	1DT 0.0002	138.00
00076096	<W 0.0010	<T 0.002	<T 0.012	1DT 0.002	<T 0.0004	<T 0.007	<T 0.0007	61.80
00076100	<W 0.0010	1DT 0.002	<T 0.008	<W 0.003	<T 0.0009	<T 0.013	<T 0.0010	97.50
00076105	<W 0.0010	1DT 0.001	<T 0.014	<W 0.001	<T 0.0004	<T 0.007	1DT 0.0002	60.50
00076114	<T 0.0004	0.020	1DT 0.034	|BL ****	<T 0.0003	0.032	<T 0.0029	54.90
00042137	<T 0.0002	0.006	<T 0.021	|BL ****	<T 0.0002	0.030	<T 0.0014	47.10

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=CE STATION=DORSET MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	SUBMISSION NUMBER	LIS SAMPLE TYPE	PROJECT CODE	SUB PROJECT CODE	SAMPLE REMOVAL DATE	EXPOSURE DATE	SAMPLE END HR	SAMPLE START HR	PREC. TYPE	PREC. AT EXP	PREC. AT REM.	GAUGE TYPE	GAUGE DEPTH (MM)	EFFICIENCY %
00076046	AP02475	PR	02	01	JAN 26, 1988	DEC 29, 1987	0900	1000	2			2	81.0	78.33
00076055	AP02483	PR	02	01	FEB 23, 1988	JAN 26, 1988	0845	0900	2			2	118.0	77.99
00076058	AP02523	PR	02	01	MAR 22, 1988	FEB 23, 1988	0845	0845	3			2	39.0	78.97
00076063	AP02552	PR	02	01	APR 19, 1988	MAR 22, 1988	0900	0845	3		1	2	81.0	92.86
00076072	AP02601	PR	02	01	MAY 17, 1988	APR 19, 1988	0900	0900	1			3	74.0	94.77
00076077	AP02631	PR	02	01	JUN 14, 1988	MAY 17, 1988	1100	0900	1			3	13.0	111.35
00076085	AP02703	PR	02	01	JUL 12, 1988	JUN 14, 1988	0940	1100	1			3	37.0	99.56
00076090	AP02744	PR	02	01	AUG 9, 1988	JUL 12, 1988	0940	0940	1			3	54.0	96.68
00076097	AP02789	PR	02	01	SEP 6, 1988	AUG 9, 1988	1200	0940	1			3	109.0	97.43
00076101	AP02823	PR	02	01	OCT 4, 1988	SEP 6, 1988	1000	1200	1			3	77.0	94.36
00076107	AP02854	PR	02	01	NOV 1, 1988	OCT 4, 1988	1000	1000	3			3	113.0	94.74
00076111	AP02898	PR	02	01	NOV 29, 1988	NOV 1, 1988	1340	1000	3			2	9.8	908.29
00076116	AP02961	PR	02	01	DEC 28, 1988	NOV 29, 1988	0930	1340	2			3	68.0	71.79

SAMPLE NUMBER	FIELD COMMENTS	OFFICE COMMENTS	VOLUME ML	CONDUCT UMHO/CM	LAB.PH	ACIDITY.TFE	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
00076046			2060	23.00	4.25	****	1.60	0.60	0.16
00076055			2988	29.50	4.36	****	2.20	0.86	0.32
00076058			1000	42.50	4.17	****	3.50	1.06	0.48
00076063			2442	40.00	4.21	****	3.70	0.74	0.44
00076072	C	H	2277	20.50	UG 5.01	****	3.55	0.67	0.38
00076077			470	20.00	4.43	****	1.70	0.35	0.10
00076085			1196	21.50	4.45	****	2.40	0.37	0.22
00076090			1695	26.50	4.30	****	3.10	0.44	0.18
00076097	A		3448	28.00	4.19	****	3.10	0.37	0.10
00076101	A	C	2359	22.00	4.26	****	2.85	0.43	0.22
00076107			3476	23.50	4.44	****	1.95	0.43	0.10
00076111	G		2881	27.00	4.31	****	2.20	0.45	0.12
00076116			1578	19.50	4.42	****	1.55	0.51	0.16

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=CE STATION=DORSET MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00076046	0.09	0.340	0.025	<T 0.015	0.035	0.280	<T 0.002	0.001
00076055	0.27	0.540	0.055	<T 0.015	0.135	0.440	<T 0.004	0.002
00076058	0.25	0.750	0.055	0.040	0.085	0.680	<T 0.004	0.004
00076063	0.18	0.610	0.050	0.030	0.090	0.420	<T 0.007	0.005
00076072	0.13	UG 2.040	0.090	UG 0.370	0.035	UG 1.225	UG 0.208	UG 0.007
00076077	<T 0.05	0.310	<T 0.020	0.045	<T 0.020	0.160	0.009	<T 0.002
00076085	0.08	0.400	0.035	0.035	0.025	0.382	<T 0.002	0.003
00076090	0.06	0.450	0.045	0.025	<T 0.010	0.376	<W 0.002	<T 0.002
00076097	<W 0.01	0.330	<T 0.020	<T 0.020	<T 0.020	0.310	0.018	<T 0.001
00076101	0.11	0.350	0.030	0.025	0.035	0.330	<T 0.003	<T 0.002
00076107	0.06	0.300	<T 0.010	0.030	<T 0.020	0.290	<T 0.004	<T 0.001
00076111	0.19	0.290	<T 0.020	<T 0.020	0.070	0.240	<W 0.002	0.001
00076116	0.18	0.250	<T 0.025	<T 0.020	0.045	0.180	<W 0.002	0.002

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00076046	< 0.0002	< 0.001	0.012	0.002	< 0.0004	1DT 0.008	1DT 0.0029	72.80
00076055	< 0.0002	1DT 0.007	0.021	0.002	0.0006	0.018	< 0.0003	81.60
00076058	0.0003	1DT 0.007	0.037	1DT 0.004	< 0.0004	1DT 0.013	< 0.0004	95.80
00076063	< 0.0002	1DT 0.006	0.046	< 0.001	< 0.0004	0.022	< 0.0003	98.60
00076072	<W 0.0010	<T 0.010	<T 0.032	1DT 0.002	<T 0.0004	<T 0.015	<T 0.0006	52.60
00076077	<W 0.0010	1DT 0.003	<T 0.026	<T 0.019	< 0.0004	<T 0.016	1DT 0.0005	60.30
00076085	<W 0.0010	1DT 0.001	1DT 0.028	1DT 0.018	<T 0.0004	<T 0.009	1DT 0.0005	54.10
00076090	<W 0.0010	<T 0.004	<T 0.027	<T 0.023	<T 0.0004	<T 0.008	1DT 0.0002	78.60
00076097	<W 0.0010	<T 0.003	<T 0.016	<T 0.011	<T 0.0004	<T 0.009	1DT 0.0002	87.80
00076101	<W 0.0010	1DT 0.001	<T 0.015	1DT 0.002	<T 0.0004	<T 0.007	<T 0.0008	80.70
00076107	<W 0.0010	1DT 0.001	1DT 0.009	<W 0.001	<T 0.0004	<T 0.006	1DT 0.0002	61.80
00076111	<T 0.0001	1DT 0.003	1DT 0.005	|BL ****	<T 0.0003	0.015	1DT 0.0006	78.00
00076116	<T 0.0004	0.004	<T 0.025	1DT 0.002	<T 0.0003	0.034	<T 0.0012	64.20

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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

---------------------------------------- REGION=CE STATION=UXBRIDGE MIC TYPE A SITE NO.1 ----------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE    EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

  00040981  AP02468     PR     02      01    JAN 26, 1988 DEC 30, 1987  0840   1330    3                  2        26.0         87.66
  00084224  AP02475     PR     02      01    FEB 23, 1988 JAN 26, 1988  0730   0840    3          1       2        50.0         69.18
  00084253  AP02523     PR     02      01    MAR 22, 1988 FEB 23, 1988  0645   0730    3    1             2        10.0        102.87
  00084313  AP02551     PR     02      01    APR 19, 1988 MAR 22, 1988  0645   0645    3                  2        59.0         70.94
  00084408  AP02595     PR     02      01    MAY 17, 1988 APR 19, 1988  0800   0645    1                  3        43.9        111.41
  00084492  AP02646     PR     02      01    JUN 14, 1988 MAY 17, 1988  0600   0800    1                  3        17.0        131.35
  00084502  AP02646     PR     02      01    JUL 12, 1988 JUN 14, 1988  0750   0600    1                  3        69.0         80.35
  00084586  AP02721     PR     02      01    AUG 10, 1988 JUL 12, 1988  0750   0750    1                  3       102.0         69.12
  00084766  AP02761     PR     02      01     SEP 6, 1988 AUG 10, 1988  0625   0750    1                  3        92.0         78.07
  00084826  AP02823     PR     02      01     OCT 4, 1988  SEP 6, 1988  0650   0630    1                  3        44.4        122.78
  00084907  AP02854     PR     02      01     NOV 1, 1988  OCT 4, 1988  0710   0650    3                  1        66.0         74.85
  00042104  AP02898     PR     02      01    NOV 29, 1988  NOV 1, 1988  1030   1710    3                  2        35.3        180.61
  00042132  AP02940     PR     02      01    DEC 29, 1988 NOV 29, 1988  0710   1030    2                  2        46.0         78.81
   SAMPLE  FIELD   OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML            UMHO/CM                                   MG/L          MG/L          MG/L

  00040981            H           740           20.00   UG    5.53       ****          2.70             0.75       1.50
  00084224                       1123           26.50         4.41       ****          1.90             0.72       0.48
  00084253                        334           36.00         4.66       ****          3.95             1.26       1.48
  00084313                       1359           28.50         4.62       ****          3.55             0.78       0.94
  00084408                       1589           19.00         4.97       ****          3.70             0.71       1.00
  00084492            N           725       U 1305.00         4.62       ****          2.30             0.42       0.42
  00084502   ACD      H          1800           18.50   B     6.03       ****          3.65             0.52       0.59
  00084586                       2289           16.00         4.60       ****          2.70             0.43       0.52
  00084766                       2332           22.50         4.38       ****          2.80             0.44       0.28
  00084826            NC         1770           20.00         4.26       ****          2.80             0.36       0.20
  00084907                       1604           17.50         4.63       ****          1.95             0.47       0.38
  00042104            NHM        2067           18.00         4.32       ****          1.55       LG    0.30       0.14
  00042132   J        Z          1159           20.00         4.62       ****          2.05             0.48       0.82
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=CE STATION=UXBRIDGE MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00040981	0.98	0.550	0.195	0.035	0.570	0.200	0.033	D 0.020
00084224	0.69	0.310	0.055	<T 0.010	0.420	0.190	<T 0.005	0.002
00084253	UG 1.28	1.060	0.165	0.030	0.750	0.810	<T 0.009	0.009
00084313	0.26	0.740	0.150	0.040	0.150	0.630	0.019	0.006
00084408	0.14	0.980	0.145	0.060	0.035	0.780	0.017	0.012
00084492	0.08	D 0.480	0.040	0.065	<T 0.020	0.374	0.012	0.004
00084502	0.18	1.470	0.075	0.230	0.045	1.200	D 0.089	0.005
00084586	0.08	0.660	0.050	0.050	0.025	0.526	0.017	0.003
00084766	0.07	0.360	0.050	0.030	<T 0.020	0.326	<W 0.002	<T 0.002
00084826	0.07	0.490	0.035	<T 0.025	<T 0.020	0.296	0.018	UG 0.048
00084907	0.20	0.330	0.045	<T 0.020	<T 0.020	0.330	<T 0.003	<T 0.002
00042104	0.16	0.190	<T 0.015	<T 0.005	0.060	0.156	<W 0.002	0.001
00042132	0.68	0.280	0.075	<T 0.020	0.370	0.160	<T 0.002	0.006

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00040981	< 0.0002	1DT 0.007	B 0.177	D 0.009	< 0.0004	B 0.066	< 0.0005	LG 29.70
00084224	< 0.0002	1DT 0.006	0.025	0.006	< 0.0004	< 0.009	1DT 0.0013	70.20
00084253	0.0004	0.017	0.074	0.017	0.0005	1DT 0.057	1DT 0.0181	52.30
00084313	0.0003	1DT 0.009	0.047	0.012	D 0.0009	0.023	1DT 0.0003	53.50
00084408	<W 0.0010	<T 0.010	<T 0.048	<W 0.002	<T 0.0004	<T 0.024	1DT 0.0006	35.70
00084492	<W 0.0010	1DT 0.002	1DT 0.032	1DT 0.020	<T 0.0004	<T 0.012	<T 0.0009	49.90
00084502	<W 0.0010	<T 0.007	<T 0.036	1DT 0.012	<T 0.0004	<T 0.013	1DT 0.0009	26.40
00084586	<W 0.0010	<T 0.004	0.035	1DT 0.008	<T 0.0004	<T 0.008	1DT 0.0004	44.60
00084766	<W 0.0010	<T 0.003	<T 0.024	<T 0.013	<T 0.0004	<T 0.007	1DT 0.0002	69.30
00084826	<W 0.0010	1DT 0.001	0.042	<T 0.006	<T 0.0004	<T 0.008	<T 0.0009	80.20
00084907	<W 0.0010	1DT 0.001	<T 0.025	<W 0.002	0.0033	<T 0.008	1DT 0.0021	49.10
00042104	<T 0.0012	0.014	1DT 0.025	|BL ****	<T 0.0002	0.014	0.0040	58.50
00042132	<T 0.0002	0.007	<T 0.046	|BL ****	<T 0.0002	0.048	<T 0.0016	49.50

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                                             ONTARIO MINISTRY OF THE ENVIRONMENT
                                        APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                        DATA LISTING
                                             CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=CE STATION=WILBERFORCE MIC TYPE A SITE NO.1 -------------------------------------

 SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE       EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
 NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL      DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                    TYPE           CODE         DATE                  HR     HR           EXP   REM.

00076048  AP02475     PR     02      01    JAN 26, 1988 DEC 29, 1987  1300   1201    2                  2      60.0       67.50
00076054  AP02483     PR     02      01    FEB 23, 1988 JAN 26, 1988  1230   1300    2                  2     113.0       66.34
00076060  AP02523     PR     02      01    MAR 22, 1988 FEB 23, 1988  1320   1230    3                  2      12.0      155.28
00076065  AP02552     PR     02      01    APR 19, 1988 MAR 22, 1988  1300   1320    3                  2      78.0       59.03
00076071  AP02601     PR     02      01    MAY 17, 1988 APR 19, 1988  1120   1300    1                  3      75.0       71.37
00076079  AP02631     PR     02      01    JUN 14, 1988 MAY 17, 1988  0830   1120    1                  3      17.0       35.69
00076087  AP02703     PR     02      01    JUL 12, 1988 JUN 14, 1988  1740   0830    1                  3       3.3      701.87
00076092  AP02744     PR     02      01     AUG 9, 1988 JUL 12, 1988  1140   1740    1                  3      41.0        6.16
00076095  AP02789     PR     02      01     SEP 6, 1988  AUG 9, 1988  1845   1140    1                  3     131.0       89.86
00076102  AP02823     PR     02      01     OCT 4, 1988  SEP 6, 1988  1000   1845    1                  3      61.0       94.22
00076106  AP02854     PR     02      01     NOV 1, 1988  OCT 4, 1988  1430   1000    3                  3      92.0       81.05
00076110  AP02898     PR     02      01    NOV 29, 1988  NOV 1, 1988  1300   1430    3                  2     100.0       83.01
00076115  AP02961     PR     02      01    DEC 29, 1988 NOV 29, 1988  1100   1300    2                  3      69.0       67.89
 SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
 NUMBER  COMMENTS COMMENTS
                           ML            UMHO/CM                                   MG/L          MG/L          MG/L

00076048    JQ                 1315            29.00           4.15       ****            2.05          0.78          0.24
00076054    G                  2434            24.00           4.32       ****            2.05          0.74          0.42
00076060            N           605            47.00           4.11       ****            3.55          1.21          0.56
00076065    AQ                 1495            41.00           4.20       ****            3.55          0.71          0.30
00076071                       1738            45.00           4.15       ****            4.60          0.96          0.44
00076079    IF                  197      LG     4.50     UG    5.32       ****      LG    0.30    RVU   0.16    <T    0.06
00076087    QP                  752            30.00           4.27       ****            3.35          0.51          0.28
00076092    I                    82      UG    68.00           3.97       ****      UG    8.20    UG    1.47    UG    1.06
00076095                       3822            21.00           4.32       ****            2.35          0.26    <T    0.04
00076102    A        HCM       1866            25.00           4.00       ****            3.15          0.49          0.22
00076106                       2421            26.00           4.33       ****            1.90          0.49    <T    0.10
00076110                       2546            26.00           4.33       ****            2.65          0.41    <T    0.08
00076115    Q       Z          1503            21.00           4.30       ****            1.80          0.53          0.26
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=CE STATION=WILBERFORCE MIC TYPE A SITE NO.1 -------------------------------------

SAMPLE     CHLORIDE          KJELDAHL          MAGNESIUM         POTASSIUM         SODIUM            AMMONIUM          PHOSPHOR          MANGANESE
NUMBER
           MG/L              MG/L              MG/L              MG/L              MG/L              MG/L              MG/L              MG/L

00076048              0.22             0.360             0.040   <T        0.010             0.105             0.300   <W        0.002             0.002
00076054              0.33             0.460             0.065   <T        0.020             0.190             0.380   <T        0.004             0.003
00076060              0.35             0.720             0.065             0.045             0.175             0.630   <T        0.005             0.005
00076065              0.16             0.660             0.040             0.030             0.075             0.420   <T        0.009             0.003
00076071              0.15             0.910             0.065             0.040             0.030             0.750   <T        0.009   UG        0.007
00076079   <T         0.03   LG        0.130   <T        0.005   <T        0.015   <T        0.015   LG        0.012   <T        0.007   <T        0.001
00076087              0.12             0.690             0.045             0.045             0.030             0.516             0.011             0.004
00076092              0.28   !IS        ****   UG        0.250             0.100             0.060   UG        1.220   !IS        ****              ****
00076095   <W         0.01             0.240   <T        0.010   <T        0.010   <T        0.010             0.256             0.016   <T        0.001
00076102              0.11             0.400             0.035   <T        0.020             0.030             0.360   <T        0.003   <T        0.002
00076106              0.08             0.250   <T        0.010   <T        0.025   <T        0.020             0.246   <W        0.002   <T        0.001
00076110              0.14             0.340   <T        0.015   <T        0.020             0.050             0.270   <T        0.002             0.001
00076115              0.26             0.290             0.040             0.045             0.115             0.198   <W        0.002             0.003
SAMPLE     NICKEL            ZINC              IRON              LEAD              VANADIUM          ALUMINUM          COPPER            ACIDITY GRAN
NUMBER
           MG/L              MG/L              MG/L              MG/L              MG/L              MG/L              MG/L              UG/L

00076048   <        0.0002   1DT       0.002             0.047             0.006   <        0.0004   1DT       0.015            0.0014             85.80
00076054   <        0.0002   1DT       0.003             0.024             0.003            0.0008             0.017   <        0.0003             58.90
00076060            0.0009             0.010   UG        0.084             0.008            0.0005   1DT       0.034   <        0.0005            109.00
00076065            0.0003   1DT       0.006             0.029   <         0.002   <        0.0004             0.012   <        0.0003            102.00
00076071   <W       0.0010             0.012   <T        0.044   1DT       0.003   <T       0.0008   <T        0.017   <T       0.0013            117.00
00076079   <W       0.0010   1DT       0.016   <T        0.023   1DT       0.011   <        0.0004   <T        0.030   1DT      0.0011   LG        22.60
00076087   <W       0.0010   <T        0.005   1DT       0.016   1DT       0.019   <        0.0004   <T        0.013   <T       0.0022             74.10
00076092              ****              ****              ****              ****              ****              ****              ****   UG       152.00
00076095   <W       0.0010   <T        0.002   <T        0.008   1DT       0.006   <T       0.0004   <T        0.007   1DT      0.0002             67.20
00076102   <W       0.0010   1DT       0.001   <T        0.016   <W        0.002   <T       0.0004   <T        0.008   1DT      0.0002   D        127.00
00076106   <W       0.0010   1DT       0.001   <T        0.012   <W        0.001   <T       0.0004   <T        0.007   1DT      0.0002             71.00
00076110   <T       0.0002             0.005   <W        0.006   |BL        ****   <T       0.0003             0.014   <T       0.0005             75.70
00076115   <T       0.0007             0.006   1DT       0.009             0.003   <T       0.0003             0.030            0.0016             78.90
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PART IV

NORTHEASTERN REGION
CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=NE STATION=AZURE LAKE MIC TYPE A SITE NO.1 --------------------------------------

SAMPLE NUMBER	SUBMISSION NUMBER	LIS SAMPLE TYPE	PROJECT CODE	SUB PROJECT CODE	SAMPLE REMOVAL DATE	EXPOSURE DATE	SAMPLE END HR	SAMPLE START HR	PREC. TYPE	PREC. AT EXP	PREC. AT REM.	GAUGE TYPE	GAUGE DEPTH (MM)	EFFICIENCY %
00081153	AP02461	PR	02	01	JAN 27, 1988	DEC 30, 1987	1050	1055	2			2	41.1	49.01
00081185	AP02499	PR	02	01	FEB 24, 1988	JAN 27, 1988	1251	1050	2			2	57.1	53.13
00081216	AP02540	PR	02	01	MAR 23, 1988	FEB 24, 1988	1705	1251	2			2	49.0	49.15
00081245	AP02559	PR	02	01	APR 14, 1988	MAR 23, 1988	1630	1705	1			2	136.1	65.92
00081276	AP02601	PR	02	01	MAY 18, 1988	APR 14, 1988	1650	1630	1			3	23.0	151.99
00081313	AP02639	PR	02	01	JUN 14, 1988	MAY 18, 1988	1200	1650	1			3	41.0	74.07
00081355	AP02715	PR	02	01	JUL 12, 1988	JUN 14, 1988	1150	1200	1			3	59.0	91.88
00081405	AP02735	PR	02	01	AUG 10, 1988	JUL 12, 1988	1130	1150	1			3	81.0	102.48
00081457	AP02805	PR	02	01	SEP 6, 1988	AUG 10, 1988	0905	1130	1			3	119.0	86.40
00081493	AP02854	PR	02	01	OCT 5, 1988	SEP 6, 1988	1040	0905	1			3	60.0	94.66
00081525	AP02898	PR	02	01	NOV 1, 1988	OCT 5, 1988	0930	1040	3			2	85.0	52.07
00081556	AP02918	PR	02	01	NOV 29, 1988	NOV 1, 1988	1000	0930	3			2	107.0	25.73
00081583	AP02940	PR	02	01	DEC 29, 1988	NOV 29, 1988	1145	1000	2			2	55.0	21.11

SAMPLE NUMBER	FIELD COMMENTS	OFFICE COMMENTS	VOLUME ML	CONDUCT UMHO/CM	LAB.PH	ACIDITY.TFE	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
00081153		N	654	17.50	4.39	****	0.85	0.58	0.20
00081185	C		985	29.00	4.22	****	1.75	0.78	0.16
00081216		NHCM	782	23.00	4.52	****	0.50	0.56	0.20
00081245	G	Z	2913	18.50	4.50	****	1.85	0.26	0.12
00081276	C	NZ	1135	19.50	4.62	****	2.55	0.47	0.34
00081313	ACD		986	18.50	B 6.97	****	3.50	0.31	0.30
00081355			1760	14.50	4.65	****	1.60	0.32	0.12
00081405	CD		2695	22.00	4.39	****	2.35	0.40	0.14
00081457		M	3338	13.50	4.78	****	1.50	0.21	<T 0.08
00081493	C		1844	24.50	4.32	****	2.80	0.45	0.20
00081525	Q	N	278	18.00	4.45	****	1.15	0.34	<T 0.04
00081556	G		885	25.00	4.32	****	2.00	0.41	<T 0.10
00081583	G	Z	378	7.00	4.67	****	0.50	0.32	<T 0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=NE STATION=AZURE LAKE MIC TYPE A SITE NO.1 -------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00081153	0.14	0.140	0.030	<W 0.005	0.035	0.090	<T 0.002	< 0.001
00081185	0.17	0.400	<T 0.015	<T 0.005	0.045	0.300	<W 0.002	0.002
00081216	0.15	0.370	0.025	<T 0.010	0.090	0.280	<W 0.002	0.002
00081245	<T 0.05	0.250	<T 0.010	<W 0.005	0.030	0.170	<T 0.005	<T 0.002
00081276	0.08	0.510	0.050	0.030	0.050	0.425	<T 0.006	0.006
00081313	0.13	B 2.280	0.095	B 0.810	0.050	UG 1.250	D 0.290	<T 0.002
00081355	0.06	0.410	0.030	0.030	<T 0.020	0.324	<T 0.004	<T 0.002
00081405	0.12	0.510	0.040	0.035	<T 0.025	0.370	D 0.011	0.003
00081457	<W 0.01	0.140	<T 0.020	<T 0.015	0.025	0.190	<T 0.004	<T 0.001
00081493	0.08	0.340	0.025	0.030	<T 0.020	0.330	<W 0.002	0.005
00081525	0.17	0.690	<T 0.010	<T 0.005	UG 0.150	0.040	0.126	0.001
00081556	0.31	0.320	<T 0.010	UG 0.070	0.230	0.140	0.012	0.002
00081583	0.09	0.210	<T 0.010	<T 0.005	<T 0.020	0.150	<T 0.005	0.001

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00081153	< 0.0002	1DT 0.002	0.018	< 0.003	< 0.0004	1DT 0.016	< 0.0005	63.80
00081185	< 0.0002	1DT 0.005	0.005	1DT 0.007	< 0.0004	1DT 0.103	1DT 0.0032	91.50
00081216	< 0.0002	1DT 0.003	0.016	1DT 0.006	< 0.0004	1DT 0.011	< 0.0005	62.80
00081245	<W 0.0010	<T 0.004	1DT 0.009	1DT 0.005	<T 0.0004	<T 0.008	1DT 0.0003	52.60
00081276	<W 0.0010	1DT 0.001	<T 0.033	1DT 0.003	<T 0.0004	<T 0.017	1DT 0.0004	53.10
00081313	UG 0.0120	<T 0.011	<T 0.041	<T 0.028	<T 0.0004	<T 0.013	0.0031	LG 24.70
00081355	<W 0.0010	<T 0.003	<T 0.013	1DT 0.011	<T 0.0004	<T 0.008	1DT 0.0002	45.40
00081405	<W 0.0010	<T 0.003	1DT 0.013	1DT 0.008	<T 0.0004	<T 0.009	1DT 0.0004	56.80
00081457	<W 0.0010	1DT 0.001	1DT 0.007	1DT 0.005	<T 0.0004	<T 0.006	1DT 0.0002	39.80
00081493	<W 0.0010	1DT 0.001	0.050	<W 0.002	<T 0.0004	<T 0.008	<T 0.0010	73.60
00081525	<W 0.0001	0.009	<T 0.184	|BL ****	<T 0.0001	UG 0.038	<T 0.0022	64.20
00081556	<T 0.0010	0.028	1DT 0.019	|BL ****	<T 0.0003	0.025	0.0050	79.40
00081583	<T 0.0006	0.009	1DT 0.016	|BL ****	<T 0.0001	0.027	<T 0.0024	40.00

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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=NE STATION=BEAR ISLAND MIC TYPE A SITE NO.1 ---------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

  00081155  AP02461     PR     02      01     JAN 4, 1988  DEC 1, 1987  1057   0937    2                 2       60.7      65.46
  00081156  AP02461     PR     02      01    JAN 26, 1988  JAN 4, 1988  1314   1057    2                 2       47.6      50.34
  00081186  AP02499     PR     02      01    FEB 23, 1988 JAN 26, 1988  1719   1314    2                 2       77.6      49.65
  00081217  AP02540     PR     02      01    MAR 23, 1988 FEB 23, 1988  1200   1719    2                 2       21.2      78.16
  00081314  AP02639     PR     02      01     MAY 3, 1988 MAR 23, 1988  0920   1200    1                 2      131.5      83.27
  00081315  AP02639     PR     02      01    MAY 17, 1988  MAY 3, 1988  1450   0920    1                 2       60.2      88.31
  00081316  AP02639     PR     02      01     JUN 2, 1988 MAY 17, 1988  1000   1450    1                 2       22.2      91.85
  00081317  AP02639     PR     02      01    JUN 14, 1988  JUN 2, 1988  0905   1000    1                 3        3.0       1.04
  00081356  AP02715     PR     02      01    JUL 12, 1988 JUN 14, 1988  1110   0905    1                 3       70.0      90.95
  00081406  AP02735     PR     02      01     AUG 9, 1988 JUL 12, 1988  1040   1110    1                 3       30.0     108.21
  00081458  AP02805     PR     02      01     SEP 6, 1988  AUG 9, 1988  1955   1040    1                 3      103.0      95.18
  00081494  AP02854     PR     02      01     OCT 4, 1988  SEP 6, 1988  1820   1955    1                 3      110.0      87.33
  00081526  AP02898     PR     02      01     NOV 2, 1988  OCT 4, 1988  0945   1820    3           1     3       77.0      92.08
  00081557  AP02918     PR     02      01     DEC 5, 1988  NOV 2, 1988  1430   0945    3     1           2      106.0      23.71
   SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML            UMHO/CM                                 MG/L          MG/L          MG/L

  00081155    C        Z         1290           17.00          4.57        ****            0.75          0.35    <T    0.06
  00081156             Z          778           25.50          4.43        ****            1.15          0.63          0.10
  00081186             N         1251           30.00          4.23        ****            1.90          0.77          0.18
  00081217                        538           36.00          4.28        ****            2.40          0.86          0.30
  00081314    CD       Z         3555           27.50          4.37        ****            3.65          0.59          0.22
  00081315    C        Z         1726      LG   15.00    UG    4.73        ****            1.95          0.31          0.16
  00081316    CD       Z          662      <T    0.50    !U      ****      ****      !U      ****  !U      ****  !U      ****
  00081317             Z            1               ****         ****      ****              ****          ****          ****
  00081356    C                  2067           23.00          4.41        ****            2.75          0.42          0.24
  00081406                       1054           35.00          4.18        ****            4.25          0.62          0.32
  00081458    AC       HM        3183           24.50          4.20        ****            3.05    <T    0.01    <T    0.08
  00081494    C                  3119           30.00          4.27        ****            3.75          0.49          0.26
  00081526             M         2289           50.00          7.64        ****            2.85          0.64          3.82
  00081557    G        Z          809           24.00    UG    6.88        ****            5.20          0.40          0.72
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                                     ONTARIO MINISTRY OF THE ENVIRONMENT
                                 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                DATA LISTING
                                     CUMULATIVE SAMPLING ANALYSIS RESULTS

----------------------------------- REGION=NE STATION=BEAR ISLAND MIC TYPE A SITE NO.1 -----------------------------------

SAMPLE    CHLORIDE          KJELDAHL          MAGNESIUM         POTASSIUM         SODIUM            AMMONIUM          PHOSPHOR          MANGANESE
NUMBER
          MG/L              MG/L              MG/L              MG/L              MG/L              MG/L              MG/L              MG/L

00081155  <W        0.01             0.130    <T       0.005    <T       0.010    <T       0.010             0.100    <T       0.002    <        0.001
00081156  <T        0.04             0.290    <T       0.015    <T       0.005             0.065             0.230             0.014             0.001
00081186            0.21             0.370    <T       0.025    <T       0.020             0.070             0.280    <T       0.003             0.002
00081217  UG        0.81             0.630             0.045             0.115    UG       0.490             0.400    <T       0.004             0.003
00081314            0.16             0.980             0.040             0.045             0.070             0.684    <T       0.009             0.004
00081315            0.06             0.490             0.040             0.045             0.025             0.364             0.014             0.003
00081316  !U        ****    !U        ****    !U        ****    !U        ****    !U        ****    !U        ****    !U        ****    <T       0.001
00081317            ****              ****              ****              ****              ****              ****              ****    !RE       ****
00081356            0.10             0.510             0.055             0.065             0.030             0.396             0.011    <T       0.002
00081406            0.13             0.880             0.085             0.080             0.050             0.630             0.031             0.004
00081458            0.14             0.350    <T       0.020             0.130             0.100             0.320    D        0.034    <T       0.001
00081494            0.10             0.350             0.045             0.055    <T       0.025             0.476    <W       0.002             0.004
00081526            1.93             2.330             0.630             5.160             0.040             1.060             0.285             0.016
00081557            2.54    UG       7.800             0.435             0.670             1.590             1.200             0.026             0.005
SAMPLE    NICKEL            ZINC              IRON              LEAD              VANADIUM          ALUMINUM          COPPER            ACIDITY GRAN
NUMBER
          MG/L              MG/L              MG/L              MG/L              MG/L              MG/L              MG/L              UG/L

00081155          0.0003    1DT      0.001             0.019             0.007    <       0.0004    1DT      0.009            0.0040    U      1123.00
00081156          0.0004    1DT      0.006             0.013             0.005    <       0.0004    1DT      0.015    1DT     0.0015             84.40
00081186  <       0.0002             0.005    1DT      0.006    1DT      0.004    <       0.0004    1DT      0.007    1DT     0.0022             94.80
00081217          0.0021    1DT      0.032             0.090             0.006    <       0.0004    1DT      0.028    1DT     0.0046             87.50
00081314  <W      0.0010    <T       0.010    1DT      0.006    <T       0.006    <T      0.0004    <T       0.006    <T      0.0011             76.50
00081315  <W      0.0010    <T       0.003    1DT      0.015    1DT      0.003    <T      0.0004    <T       0.029    <T      0.0012    LG       48.00
00081316  <T      0.0098    UG       0.026    UG       0.128    1DT      0.007    <T      0.0004    <T       0.013    <T      0.0020    !U        ****
00081317  !RE       ****    !RE       ****    !RE       ****    !RE       ****    !RE       ****    !RE       ****    !RE       ****              ****
00081356  <W      0.0010    <T       0.002    <T       0.020    1DT      0.010    <T      0.0004    <T       0.007    1DT     0.0002             63.10
00081406  <T      0.0015    <T       0.005    <T       0.019    1DT      0.010    <T      0.0004    <T       0.010    <T      0.0010             81.20
00081458  <W      0.0010    <T       0.004    <T       0.016    1DT      0.009    <T      0.0004    <T       0.007    <T      0.0007            103.00
00081494  <W      0.0010    <T       0.010    <T       0.014    <W       0.001    <T      0.0004    <T       0.007    <T      0.0006             80.60
00081526  <T      0.0007             0.007    <T       0.027    |BL       ****    <T      0.0002             0.019    <T      0.0012             15.90
00081557  UG      0.0027             0.110    <T       0.019    |BL       ****    <T      0.0003             0.029            0.0195             27.50
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=NE STATION=GOWGANDA MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	SUBMISSION NUMBER	LIS SAMPLE TYPE	PROJECT CODE	SUB PROJECT CODE	SAMPLE REMOVAL DATE	EXPOSURE DATE	SAMPLE END HR	SAMPLE START HR	PREC. TYPE	PREC. AT EXP	PREC. AT REM.	GAUGE TYPE	GAUGE DEPTH (MM)	EFFICIENCY %
00081143	AP02461	PR	02	01	JAN 26, 1988	DEC 29, 1987	1020	1010	2			2	32.6	64.34
00081175	AP02499	PR	02	01	FEB 23, 1988	JAN 26, 1988	1035	1020	2			2	60.7	48.56
00081206	AP02540	PR	02	01	MAR 22, 1988	FEB 23, 1988	1025	1035	2			2	33.9	34.34
00081235	AP02559	PR	02	01	APR 19, 1988	MAR 22, 1988	0908	1025	1			2	128.0	94.66
00081266	AP02601	PR	02	01	MAY 17, 1988	APR 19, 1988	0710	0908	1			3	74.9	68.55
00081303	AP02639	PR	02	01	JUN 14, 1988	MAY 17, 1988	0710	0710	1			3	10.0	128.44
00081345	AP02715	PR	02	01	JUL 12, 1988	JUN 14, 1988	0807	0710	1			3	61.0	80.28
00081395	AP02735	PR	02	01	AUG 9, 1988	JUL 12, 1988	0703	0807	1			3	108.0	90.83
00081447	AP02805	PR	02	01	SEP 6, 1988	AUG 9, 1988	0850	0703	1			3	95.0	91.17
00081483	AP02854	PR	02	01	OCT 4, 1988	SEP 6, 1988	0841	0850	1			3	62.0	92.30
00081515	AP02898	PR	02	01	NOV 1, 1988	OCT 4, 1988	0829	0841	3		1	2	94.0	77.62
00081546	AP02918	PR	02	01	NOV 29, 1988	NOV 1, 1988	0905	0829	3			2	90.0	68.17
00081573	AP02940	PR	02	01	DEC 27, 1988	NOV 29, 1988	0845	0905	2		1	2	32.0	19.35

SAMPLE NUMBER	FIELD COMMENTS	OFFICE COMMENTS	VOLUME ML	CONDUCT UMHO/CM	LAB.PH	ACIDITY.TFE	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
00081143		HM	681	17.00	4.45	****	0.90	0.52	D 0.46
00081175		N	957	23.50	4.27	****	1.65	0.62	0.11
00081206		N	378	30.50	4.28	****	2.25	0.78	0.20
00081235	G		3934	15.50	4.68	****	1.90	LG 0.14	0.16
00081266	C		1667	17.00	4.61	****	2.30	0.28	0.14
00081303	C	N	417	UG 44.50	4.21	****	UG 5.95	0.52	0.48
00081345	C	HM	1590	17.50	B 6.78	****	3.15	0.32	0.14
00081395	C		3185	23.50	4.33	****	2.65	0.32	0.12
00081447			2812	13.00	4.61	****	1.65	0.17	<T 0.06
00081483			1858	29.00	4.34	****	3.10	0.39	0.24
00081515	A		2328	16.00	4.53	****	1.10	0.29	<W 0.02
00081546	G		1988	27.00	4.28	****	1.90	0.45	<T 0.08
00081573	G		52	14.00	4.48	****	0.80	0.47	<T 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=NE STATION=GOWGANDA MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00081143	0.05	0.190	0.050	<T 0.005	0.060	0.090	<T 0.009	< 0.001
00081175	0.15	0.280	0.015	<T 0.010	0.045	0.230	<T 0.003	0.002
00081206	0.24	0.570	0.030	<T 0.020	0.125	0.430	0.016	0.002
00081235	0.09	1.190	<T 0.025	<T 0.015	0.035	0.180	<T 0.004	<T 0.002
00081266	<T 0.05	0.620	0.040	0.055	0.030	0.350	0.051	0.003
00081303	0.11	0.830	0.105	0.315	0.030	0.588	0.032	0.011
00081345	0.10	B 2.750	0.045	D 0.435	0.040	B 1.650	D 0.200	<T 0.001
00081395	0.05	0.350	0.035	<T 0.020	<T 0.020	0.306	<W 0.002	<T 0.002
00081447	<W 0.01	0.190	<T 0.010	<T 0.010	<T 0.020	0.176	<T 0.009	<T 0.001
00081483	0.06	0.320	0.030	0.035	0.025	0.310	<T 0.002	0.006
00081515	0.06	0.230	<T 0.005	<T 0.005	<T 0.020	0.130	<W 0.002	0.001
00081546	0.10	0.230	<T 0.010	<T 0.010	0.030	0.150	<W 0.002	0.001
00081573	0.30	!IS ****	<T 0.015	<T 0.015	0.080	0.160	!IS ****	****

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00081143	0.0004	1DT 0.003	0.017	1DT 0.004	< 0.0004	1DT 0.022	1DT 0.0011	64.40
00081175	0.0009	0.005	1DT 0.003	0.008	D 0.0009	1DT 0.010	1DT 0.0033	87.90
00081206	0.0003	1DT 0.008	0.019	0.018	< 0.0004	1DT 0.028	< 0.0007	89.00
00081235	<W 0.0010	<T 0.005	1DT 0.014	<W 0.001	<T 0.0004	<T 0.010	1DT 0.0010	43.60
00081266	<W 0.0010	<T 0.010	<T 0.019	1DT 0.005	<T 0.0004	<T 0.013	<T 0.0019	54.90
00081303	B 0.1616	0.032	UG 0.070	<T 0.048	<T 0.0004	<T 0.023	UG 0.0081	UG 101.00
00081345	<W 0.0010	<T 0.005	<T 0.017	1DT 0.016	<T 0.0004	<T 0.008	1DT 0.0005	29.30
00081395	<W 0.0010	<T 0.006	<T 0.010	1DT 0.007	<T 0.0004	<T 0.007	1DT 0.0003	64.60
00081447	<W 0.0010	<T 0.002	1DT 0.005	<T 0.010	<T 0.0004	<T 0.007	1DT 0.0002	51.20
00081483	<W 0.0010	1DT 0.001	1DT 0.021	<W 0.002	<T 0.0004	<T 0.010	<T 0.0017	71.60
00081515	<T 0.0002	1DT 0.002	<W 0.006	|BL ****	<T 0.0000	0.008	0.0012	53.20
00081546	<T 0.0003	0.003	<W 0.006	|BL ****	<T 0.0003	0.009	<T 0.0008	82.70
00081573	****	****	****	****	****	****	****	61.70

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                                                 ONTARIO MINISTRY OF THE ENVIRONMENT
                                            APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                             DATA LISTING
                                                 CUMULATIVE SAMPLING ANALYSIS RESULTS

---------------------------------------- REGION=NE STATION=KILLARNEY MIC TYPE A SITE NO.1 ----------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT  SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE     PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE            CODE         DATE                 HR     HR           EXP   REM.

  00081150  AP02461     PR     02       01    JAN 26, 1988 DEC 29, 1987   1055   1107    2                  2      39.5      64.72
  00081182  AP02499     PR     02       01    FEB 23, 1988 JAN 26, 1988   1100   1055    2                  2      58.9      66.78
  00081213  AP02540     PR     02       01    MAR 22, 1988 FEB 23, 1988   1115   1100    2                  2      34.6      68.99
  00081242  AP02559     PR     02       01    APR 19, 1988 MAR 22, 1988   1525   1115    1                  2      74.9      85.82
  00081273  AP02601     PR     02       01    MAY 17, 1988 APR 19, 1988   1012   1525    1                  3      50.0      98.56
  00081310  AP02639     PR     02       01    JUN 14, 1988 MAY 17, 1988   0945   1012    1                  3       5.0     104.10
  00081352  AP02715     PR     02       01    JUL 12, 1988 JUN 14, 1988   0905   0945    1                  3      30.0      85.73
  00081402  AP02735     PR     02       01     AUG 9, 1988 JUL 12, 1988   0830   0905    1                  3      40.0      94.25
  00081454  AP02805     PR     02       01     SEP 6, 1988  AUG 9, 1988   0840   0830    1                  3      55.0      92.01
  00081490  AP02854     PR     02       01     OCT 4, 1988  SEP 6, 1988   1230   0840    1                  3      95.0      89.90
  00081521  AP02898     PR     02       01     NOV 1, 1988  OCT 4, 1988   1300   1230    3           1      3     140.0      90.84
  00081553  AP02918     PR     02       01    NOV 29, 1988  NOV 1, 1988   1515   1300    3                  2     108.3      88.70
  00081580  AP02940     PR     02       01    DEC 28, 1988 NOV 29, 1988   0930   1515    2           1      2      78.1      70.59
  SAMPLE  FIELD     OFFICE   VOLUME         CONDUCT        LAB.PH         ACIDITY.TFE    SULFATE        NITRATE        CALCIUM
  NUMBER  COMMENTS COMMENTS
                             ML             UMHO/CM                                      MG/L           MG/L           MG/L

  00081150            HM           830          24.00             4.28       ****           1.30             0.58          0.14
  00081182                        1277          33.00             4.19       ****           2.35             0.84          0.14
  00081213                         775          47.50             4.20       ****           4.05             1.22          0.56
  00081242                        2087          49.50             4.19       ****           4.45             1.01          0.46
  00081273    D                   1600          34.00             4.35       ****           3.85      UG     0.91          0.72
  00081310    C                    169          23.00             4.57       ****           2.75             0.46          0.56
  00081352                         835          21.50             4.55       ****           3.45             0.66    D     0.58
  00081402                        1224          36.00             4.13       ****           4.05             0.58          0.26
  00081454            HCM         1643          19.00      UG     4.71       ****           2.15             0.33          0.16
  00081490    B                   2773          25.00             4.35       ****           2.35             0.28          0.14
  00081521                        3154          25.00             4.28       ****           2.25             0.60    <T    0.08
  00081553                        3116          37.00             4.06       ****           2.65             0.89          0.18
  00081580    C                   1787          15.50             4.41       ****           1.70             0.57          0.28
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=NE STATION=KILLARNEY MIC TYPE A SITE NO.1 -------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00081150	<W 0.01	0.340	<T 0.015	<T 0.005	<T 0.015	0.300	<W 0.002	0.001
00081182	0.30	D 0.540	<T 0.020	0.030	0.120	0.450	<T 0.003	0.002
00081213	0.30	0.990	0.085	<T 0.025	0.130	0.850	<W 0.002	0.004
00081242	0.21	0.820	0.050	0.030	0.070	0.740	<T 0.009	0.004
00081273	0.14	0.840	0.110	0.050	0.045	0.725	0.015	0.010
00081310	0.14	0.640	0.135	UG 0.280	0.045	0.200	0.040	****
00081352	D 0.15	D 0.800	D 0.120	0.075	0.040	0.684	<T 0.007	0.005
00081402	0.09	0.600	0.065	0.030	<T 0.025	0.536	<W 0.002	0.004
00081454	<T 0.03	0.250	0.030	<T 0.015	0.025	0.256	<T 0.006	<T 0.002
00081490	0.07	0.230	<T 0.020	0.050	<T 0.020	0.230	<W 0.002	<T 0.001
00081521	<T 0.03	0.400	<T 0.015	<T 0.020	<T 0.005	0.306	<T 0.002	0.001
00081553	0.19	0.400	<T 0.020	0.080	0.135	0.366	<W 0.002	0.002
00081580	0.14	0.360	0.035	0.030	0.050	0.276	<T 0.008	0.003

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00081150	0.0003	1DT 0.007	0.010	1DT 0.005	< 0.0004	1DT 0.016	1DT 0.0010	80.70
00081182	< 0.0002	1DT 0.006	0.007	1DT 0.004	< 0.0004	< 0.009	1DT 0.0024	98.70
00081213	0.0010	1DT 0.015	0.052	0.007	0.0004	0.024	1DT 0.0030	102.00
00081242	<W 0.0010	0.012	<T 0.031	<W 0.001	<T 0.0005	<T 0.014	1DT 0.0004	110.00
00081273	<T 0.0013	<T 0.006	<T 0.039	1DT 0.005	<T 0.0004	<T 0.016	<T 0.0011	82.20
00081310	****	****	****	****	****	****	****	66.10
00081352	<W 0.0010	<T 0.004	<T 0.052	1DT 0.056	<T 0.0004	<T 0.011	1DT 0.0003	53.40
00081402	<W 0.0010	<T 0.006	0.030	<T 0.030	<T 0.0004	<T 0.009	1DT 0.0003	90.60
00081454	<W 0.0010	1DT 0.002	<T 0.016	1DT 0.013	<T 0.0004	<T 0.008	<T 0.0007	LG 45.60
00081490	<T 0.0012	1DT 0.001	0.019	<W 0.001	<T 0.0004	<T 0.007	0.0025	70.50
00081521	<T 0.0002	0.005	<W 0.005	|BL ****	<T 0.0001	0.008	<T 0.0007	82.40
00081553	<T 0.0004	0.011	<T 0.011	|BL ****	<T 0.0004	0.019	<T 0.0014	101.00
00081580	<T 0.0007	0.008	<T 0.040	|BL ****	<T 0.0003	0.043	0.0019	63.80

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=NE STATION=MATTAWA MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	SUBMISSION NUMBER	LIS SAMPLE TYPE	PROJECT CODE	SUB PROJECT CODE	SAMPLE REMOVAL DATE	EXPOSURE DATE	SAMPLE END HR	SAMPLE START HR	PREC. TYPE	PREC. AT EXP	PREC. AT REM.	GAUGE TYPE	GAUGE DEPTH (MM)	EFFICIENCY %
00081147	AP02461	PR	02	01	JAN 26, 1988	DEC 30, 1987	1435	1530	2			2	33.1	78.07
00081179	AP02499	PR	02	01	FEB 23, 1988	JAN 26, 1988	1330	1435	2			2	75.8	69.40
00081210	AP02540	PR	02	01	MAR 22, 1988	FEB 23, 1988	1420	1330	2			2	46.2	69.40
00081239	AP02559	PR	02	01	APR 19, 1988	MAR 22, 1988	1440	1420	1			2	46.8	86.21
00081270	AP02601	PR	02	01	MAY 17, 1988	APR 19, 1988	1430	1440	1			3	71.8	89.01
00081307	AP02639	PR	02	01	JUN 14, 1988	MAY 17, 1988	1420	1430	1			3	22.0	80.78
00081349	AP02715	PR	02	01	JUL 12, 1988	JUN 14, 1988	1510	1420	1			3	62.0	90.21
00081399	AP02735	PR	02	01	AUG 15, 1988	JUL 12, 1988	1430	1510	1			3	196.0	82.50
00081451	AP02805	PR	02	01	SEP 6, 1988	AUG 15, 1988	1435	1430	1			3	100.0	74.69
00081487	AP02854	PR	02	01	OCT 4, 1988	SEP 6, 1988	1035	1435	1			3	87.0	86.06
00081519	AP02898	PR	02	01	NOV 1, 1988	OCT 4, 1988	1405	1035	1			2	64.0	82.20
00081550	AP02918	PR	02	01	NOV 29, 1988	NOV 1, 1988	1140	1405	3			2	89.0	88.07
00081577	AP02940	PR	02	01	DEC 29, 1988	NOV 29, 1988	1345	1140	2			2	43.0	73.28

SAMPLE NUMBER	FIELD COMMENTS	OFFICE COMMENTS	VOLUME ML	CONDUCT UMHO/CM	LAB.PH	ACIDITY.TFE	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
00081147		M	839	29.00	4.19	****	1.55	0.69	0.20
00081179			1708	33.00	4.19	****	1.95	0.88	0.14
00081210			1041	32.00	4.29	****	1.90	0.74	0.18
00081239			1310	48.00	4.16	****	4.65	0.89	0.58
00081270			2075	24.00	4.42	****	2.55	0.51	0.22
00081307	C	H	577	LG 12.00	UG 5.05	****	LG 1.65	0.26	0.18
00081349			1816	24.50	4.45	****	3.10	0.41	0.22
00081399		Z	5250	29.00	4.20	****	3.05	0.39	0.10
00081451	A	HMZ	2425	38.00	4.16	****	3.90	0.41	<T 0.04
00081487			2431	35.00	4.25	****	3.55	0.56	0.38
00081519			1681	19.00	4.43	****	1.20	0.37	<T 0.06
00081550		C	2538	28.00	4.43	****	1.45	0.31	<T 0.08
00081577		Z	1025	15.00	4.44	****	1.35	0.58	0.22

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

--------------------------------------- REGION=NE STATION=MATTAWA MIC TYPE A SITE NO.1 ---------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00081147	<T 0.04	0.530	0.025	<T 0.010	0.050	0.250	<T 0.007	0.002
00081179	0.25	0.360	<T 0.015	<T 0.015	0.090	0.320	<T 0.002	0.003
00081210	0.17	0.400	0.025	<T 0.010	0.060	0.290	<W 0.002	0.002
00081239	0.20	0.660	0.080	0.045	0.065	0.500	0.017	0.006
00081270	0.07	0.550	0.040	0.045	0.030	0.450	0.016	0.004
00081307	0.09	0.520	0.050	UG 0.220	0.030	0.274	0.033	0.006
00081349	0.09	0.550	0.045	0.045	0.025	0.502	<T 0.005	0.004
00081399	0.06	0.350	0.030	0.025	0.025	0.306	<W 0.002	<T 0.002
00081451	UG 0.74	0.260	<T 0.010	<T 0.010	<T 0.015	0.276	<T 0.005	<T 0.001
00081487	0.10	0.360	0.060	0.035	0.030	0.370	<W 0.002	0.004
00081519	0.09	0.250	<T 0.010	0.035	<T 0.025	0.096	<T 0.003	0.001
00081550	0.08	0.150	<T 0.005	<T 0.015	<T 0.025	0.100	<T 0.003	0.002
00081577	0.23	0.380	0.030	0.040	0.115	0.206	0.026	0.007

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00081147	< 0.0002	1DT 0.008	0.036	1DT 0.002	< 0.0004	1DT 0.020	1DT 0.0013	93.20
00081179	< 0.0002	0.008	D 0.016	1DT 0.003	0.0004	< 0.008	1DT 0.0018	98.10
00081210	0.0004	< 0.002	0.022	1DT 0.001	< 0.0004	1DT 0.010	1DT 0.0013	82.70
00081239	<W 0.0010	<T 0.009	0.048	1DT 0.002	<T 0.0004	<T 0.021	0.0031	112.00
00081270	<W 0.0010	<T 0.007	<T 0.026	1DT 0.002	<T 0.0004	<T 0.011	0.0033	70.60
00081307	<W 0.0010	<T 0.008	<T 0.071	1DT 0.054	<T 0.0004	0.026	<T 0.0022	LG 30.70
00081349	<W 0.0010	<T 0.005	<T 0.032	<T 0.012	<T 0.0004	<T 0.008	1DT 0.0002	63.60
00081399	<W 0.0010	<T 0.002	<T 0.013	<T 0.006	<T 0.0004	<T 0.006	1DT 0.0001	79.20
00081451	<W 0.0010	<T 0.003	<T 0.013	<T 0.013	<T 0.0004	<T 0.007	1DT 0.0002	111.00
00081487	<W 0.0010	1DT 0.001	<T 0.030	<W 0.001	<T 0.0004	<T 0.007	<T 0.0007	82.80
00081519	<T 0.0002	1DT 0.002	<W 0.006	|BL ****	<T 0.0000	0.020	1DT 0.0006	63.40
00081550	<T 0.0001	0.002	<T 0.009	|BL ****	<T 0.0001	0.015	<T 0.0010	62.80
00081577	<T 0.0005	0.011	<T 0.144	|BL ****	<T 0.0001	0.105	0.0025	64.50

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                                    ONTARIO MINISTRY OF THE ENVIRONMENT
                                APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                DATA LISTING
                                     CUMULATIVE SAMPLING ANALYSIS RESULTS

---------------------------------------- REGION=NE STATION=MCKELLAR MIC TYPE A SITE NO.1 --------------------------------------

 SAMPLE  SUBMISSION LIS    PROJECT SUB           SAMPLE       EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
 NUMBER  NUMBER     SAMPLE CODE    PROJECT       REMOVAL      DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                    TYPE           CODE          DATE                  HR     HR           EXP   REM.

00081149  AP02461     PR     02      01    JAN 26, 1988 DEC 29, 1987  0815   0845    2     1     1     2     107.6      58.62
00081181  AP02499     PR     02      01    FEB 23, 1988 JAN 26, 1988  0840   0815    2     1           2     127.5      44.67
00081212  AP02540     PR     02      01    MAR 23, 1988 FEB 23, 1988  0840   0840    2                 2      44.0      39.83
00081241  AP02559     PR     02      01    APR 19, 1988 MAR 23, 1988  0835   0840    1           1     2      79.6      79.48
00081272  AP02601     PR     02      01    MAY 17, 1988 APR 19, 1988  0835   0835    1                 2     106.2      35.41
00081309  AP02639     PR     02      01    JUN 14, 1988 MAY 17, 1988  0835   0835    1                 3      11.0      75.04
00081351  AP02715     PR     02      01    JUL 12, 1988 JUN 14, 1988  0830   0835    1                 3      21.0      40.33
00081401  AP02735     PR     02      01     AUG 9, 1988 JUL 12, 1988  0810   0830    1                 3     149.0      80.31
00081453  AP02805     PR     02      01     SEP 6, 1988  AUG 9, 1988  0840   0810    1                 3      96.0      89.87
00081489  AP02854     PR     02      01     OCT 4, 1988  SEP 6, 1988  0835   0840    1           1     3      98.0      86.74
00081523  AP02898     PR     02      01     NOV 1, 1988  OCT 4, 1988  0845   0835    1                 3      97.0      78.56
00081552  AP02918     PR     02      01    NOV 29, 1988  NOV 1, 1988  0830   0845    3                 2     137.0      68.48
00081579  AP02940     PR     02      01    DEC 28, 1988 NOV 29, 1988  0830   0830    2           1     2      74.6      73.00
 SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT          LAB.PH         ACIDITY.TFE    SULFATE        NITRATE        CALCIUM
 NUMBER  COMMENTS COMMENTS
                           ML            UMHO/CM                                        MG/L           MG/L           MG/L

00081149                      2048           28.00              4.26         ****             1.70           0.86           0.38
00081181             N        1849           34.00              4.21         ****             3.00           0.80           0.24
00081212    F                  569           37.50              4.26         ****             3.15           0.77           0.24
00081241                      2054           48.00              4.17         ****             4.50           0.84           0.44
00081272             NC       1221           16.50              4.49         ****             3.45           0.72           0.58
00081309    C        C         268      LG    9.00      UG      5.66         ****       LG    1.30     LG    0.23           0.36
00081351    F                  275      D    56.00      UG      7.39         ****       B     8.80     UG    1.22     UG    1.14
00081401    CD                3885           40.50              4.11         ****             5.15           0.59           0.22
00081453    D        HCM      2801      LG   15.00              4.45         ****             2.40           0.33           0.14
00081489    A                 2760           25.50              4.39         ****             2.35           0.38           0.14
00081523                      2437           24.00              4.36         ****             2.35           0.48           0.12
00081552                      2956           39.00              4.24         ****             1.95           0.51     <T    0.10
00081579                      1772           19.00              4.32         ****             1.85     UG    0.69           0.26
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=NE STATION=MCKELLAR MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00081149	0.22	0.430	0.065	<T 0.010	0.125	0.330	<T 0.004	0.003
00081181	0.37	0.690	0.045	0.030	0.220	0.560	<T 0.004	0.003
00081212	0.14	0.800	0.035	<T 0.020	0.045	0.590	<T 0.003	0.002
00081241	0.20	0.590	0.055	0.045	0.085	0.530	<T 0.005	0.004
00081272	0.11	0.850	0.100	0.040	0.045	0.700	0.016	UG 0.010
00081309	0.09	0.460	0.090	UG 0.245	0.040	0.152	0.035	UG 0.013
00081351	D 0.40	B 5.700	UG 0.275	B 0.885	B 0.135	B 4.530	B 0.385	<T 0.001
00081401	0.11	1.110	0.065	0.105	<T 0.020	0.860	D 0.044	0.003
00081453	0.23	0.740	0.030	0.085	0.040	0.636	D 0.051	0.003
00081489	0.07	0.280	<T 0.025	0.025	0.025	0.296	<W 0.002	<T 0.001
00081523	0.03	0.440	<T 0.020	0.025	<T 0.025	0.320	<W 0.002	0.001
00081552	0.14	0.270	<T 0.015	<T 0.020	0.035	0.256	<W 0.002	0.001
00081579	0.22	0.420	0.035	0.035	0.090	0.340	<T 0.007	0.003

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00081149	< 0.0002	1DT 0.003	0.027	0.005	< 0.0004	1DT 0.017	1DT 0.0007	84.40
00081181	< 0.0002	0.006	0.016	1DT 0.004	0.0005	1DT 0.008	1DT 0.0019	97.30
00081212	0.0004	1DT 0.008	0.033	1DT 0.011	< 0.0004	1DT 0.012	1DT 0.0017	90.30
00081241	<W 0.0010	0.011	0.035	1DT 0.005	<T 0.0004	<T 0.014	1DT 0.0004	110.00
00081272	<W 0.0010	<T 0.008	<T 0.091	1DT 0.009	<T 0.0004	<T 0.011	<T 0.0009	90.50
00081309	<W 0.0010	<T 0.011	0.063	1DT 0.075	<T 0.0004	<T 0.026	<T 0.0031	LG 25.80
00081351	<T 0.0028	<T 0.022	B 0.266	1DT 0.142	<T 0.0004	<T 0.034	B 0.0051	LG 24.10
00081401	<W 0.0010	<T 0.006	1DT 0.011	<T 0.007	<T 0.0004	<T 0.006	1DT 0.0002	97.00
00081453	<W 0.0010	<T 0.004	<T 0.008	<T 0.010	<T 0.0004	<T 0.007	1DT 0.0003	65.60
00081489	<W 0.0010	1DT 0.001	<T 0.014	<W 0.001	<T 0.0004	<T 0.007	1DT 0.0002	66.10
00081523	<T 0.0004	0.004	1DT 0.046	|BL ****	<T 0.0001	0.012	<T 0.0011	72.90
00081552	<T 0.0003	0.004	1DT 0.007	|BL ****	<T 0.0002	0.013	<T 0.0007	73.50
00081579	<T 0.0003	0.007	<T 0.018	|BL ****	<T 0.0003	0.027	<T 0.0011	75.20

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=NE STATION=MOONBEAM MIC TYPE A SITE NO.1 --------------------------------------

SAMPLE NUMBER	SUBMISSION NUMBER	LIS SAMPLE TYPE	PROJECT CODE	SUB PROJECT CODE	SAMPLE REMOVAL DATE	EXPOSURE DATE	SAMPLE END HR	SAMPLE START HR	PREC. TYPE	PREC. AT EXP	PREC. AT REM.	GAUGE TYPE	GAUGE DEPTH(MM)	EFFICIENCY %
00081151	AP02461	PR	02	01	JAN 26, 1988	DEC 30, 1987	1348	1430	2			2	11.1	64.10
00081183	AP02499	PR	02	01	FEB 23, 1988	JAN 26, 1988	1430	1348	2			2	45.3	31.68
00081214	AP02540	PR	02	01	MAR 23, 1988	FEB 23, 1988	1050	1430	2			2	52.8	36.05
00081243	AP02559	PR	02	01	APR 19, 1988	MAR 23, 1988	1605	1115	1			2	60.0	68.79
00081274	AP02601	PR	02	01	MAY 17, 1988	APR 19, 1988	1445	1605	1			3	48.4	87.37
00081311	AP02639	PR	02	01	JUN 14, 1988	MAY 17, 1988	2145	1445	1			3	15.0	113.34
00081353	AP02715	PR	02	01	JUL 18, 1988	JUN 14, 1988	1655	2145	1			3	110.0	89.88
00081403	AP02735	PR	02	01	AUG 14, 1988	JUL 18, 1988	2045	1655	1		1	3	195.0	89.24
00081455	AP02805	PR	02	01	SEP 6, 1988	AUG 14, 1988	1635	2045	1			3	40.0	74.07
00081491	AP02854	PR	02	01	OCT 4, 1988	SEP 6, 1988	1855	1635	1			3	55.0	102.76
00081522	AP02898	PR	02	01	NOV 1, 1988	OCT 4, 1988	1950	1855	3			2	80.0	48.09
00081554	AP02918	PR	02	01	NOV 29, 1988	NOV 1, 1988	1735	1950	3			2	122.0	59.71
00081581	AP02940	PR	02	01	DEC 28, 1988	NOV 29, 1988	1635	1735	2			2	75.0	19.88

SAMPLE NUMBER	FIELD COMMENTS	OFFICE COMMENTS	VOLUME ML	CONDUCT UMHO/CM	LAB.PH	ACIDITY.TFE	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
00081151			231	12.00	4.62	****	0.75	0.46	0.26
00081183		N	466	16.50	4.51	****	1.15	0.50	<T 0.08
00081214		N	618	19.00	4.65	****	1.70	0.49	0.30
00081243			1340	34.00	4.26	****	3.25	0.60	0.28
00081274	A		1373	11.00	4.94	****	1.75	0.20	0.18
00081311			552	27.50	4.82	****	4.15	UG 0.84	UG 1.00
00081353	Q	Z	3210	10.50	UG 6.49	****	1.30	0.19	0.28
00081403			5650	B 6.50	D 4.86	****	B 0.80	0.14	<T 0.04
00081455		CMZ	962	12.50	4.47	****	1.45	0.16	<T 0.04
00081491	A		1835	12.50	B 6.67	****	2.55	0.29	0.56
00081522		N	1224	12.00	4.60	****	1.10	0.33	<T 0.06
00081554		C	2359	31.00	4.42	****	1.30	0.35	<T 0.04
00081581	P		486	10.50	4.53	****	0.75	0.42	<T 0.06

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

--- REGION=NE STATION=MOONBEAM MIC TYPE A SITE NO.1 ---

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00081151	0.16	0.220	0.040	<W 0.005	0.070	0.100	<T 0.002	0.001
00081183	0.15	0.340	<T 0.015	<T 0.005	0.040	0.280	<T 0.002	0.002
00081214	0.09	0.440	0.040	<T 0.015	0.045	0.330	<T 0.002	0.002
00081243	0.11	0.550	0.040	<T 0.010	0.035	0.440	<T 0.007	0.006
00081274	<T 0.04	0.440	0.035	0.060	0.065	0.275	0.028	0.004
00081311	0.18	1.030	UG 0.155	0.175	0.055	0.856	0.017	0.015
00081353	UG 0.93	UG 1.320	0.080	UG 0.620	UG 0.515	0.410	0.017	0.003
00081403	<W 0.01	LG 0.120	<T 0.015	<T 0.010	<T 0.015	LG 0.090	<W 0.002	<T 0.001
00081455	<T 0.02	0.140	<T 0.015	<T 0.010	0.030	0.156	<T 0.006	<T 0.001
00081491	0.08	D 0.820	0.080	D 0.185	B 0.130	D 0.726	D 0.072	UG 0.017
00081522	0.12	0.360	<T 0.010	<T 0.010	<T 0.010	0.190	<W 0.002	0.001
00081554	0.07	0.150	<W 0.005	<T 0.010	<T 0.020	0.116	<W 0.002	0.001
00081581	0.10	0.190	<T 0.010	<T 0.015	0.045	0.120	<T 0.005	0.001

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00081151	0.0002	1DT 0.044	0.026	1DT 0.013	< 0.0004	1DT 0.029	1DT 0.0023	47.60
00081183	< 0.0002	0.006	1DT 0.006	1DT 0.009	< 0.0004	1DT 0.016	1DT 0.0065	59.90
00081214	0.0002	1DT 0.014	0.034	0.012	< 0.0004	1DT 0.013	< 0.0005	47.00
00081243	<W 0.0010	<T 0.009	<T 0.022	<W 0.002	<T 0.0004	<T 0.011	1DT 0.0005	88.10
00081274	<W 0.0010	1DT 0.001	<T 0.022	1DT 0.004	<T 0.0004	<T 0.020	1DT 0.0003	38.20
00081311	<W 0.0010	<T 0.006	<T 0.134	1DT 0.073	<T 0.0004	<T 0.016	<T 0.0014	48.70
00081353	<W 0.0010	0.012	1DT 0.013	1DT 0.013	<W 0.0001	<T 0.007	1DT 0.0006	LG 21.00
00081403	<W 0.0010	1DT 0.001	<T 0.012	1DT 0.007	<T 0.0004	<T 0.007	1DT 0.0002	D 33.40
00081455	<W 0.0010	<T 0.003	<T 0.014	1DT 0.020	<T 0.0004	<T 0.010	<T 0.0019	66.30
00081491	<W 0.0010	<T 0.007	<T 0.048	<W 0.002	<T 0.0004	<T 0.013	1DT 0.0003	LG 20.50
00081522	<W 0.0001	1DT 0.002	<W 0.007	|BL ****	<T 0.0000	0.011	1DT 0.0005	47.80
00081554	<W 0.0001	0.003	1DT 0.008	|BL ****	<T 0.0001	0.009	<T 0.0009	64.00
00081581	<T 0.0002	0.008	<W 0.012	|BL ****	<T 0.0001	0.018	<T 0.0018	48.90

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=NE STATION=MOOSONEE MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	SUBMISSION NUMBER	LIS SAMPLE TYPE	PROJECT CODE	SUB PROJECT CODE	SAMPLE REMOVAL DATE	EXPOSURE DATE	SAMPLE END HR	SAMPLE START HR	PREC. TYPE	PREC. AT EXP	PREC. AT REM.	GAUGE TYPE	GAUGE DEPTH (MM)	EFFICIENCY %
00081152	AP02461	PR	02	01	JAN 26, 1988	DEC 29, 1987	2035	1730	2			2	48.4	35.51
00081184	AP02499	PR	02	01	FEB 23, 1988	JAN 26, 1988	2030	2035	2			2	24.9	56.03
00081215	AP02540	PR	02	01	MAR 22, 1988	FEB 23, 1988	1829	2030	2			2	31.3	42.51
00081244	AP02559	PR	02	01	APR 19, 1988	MAR 22, 1988	2200	1829	3			2	100.2	49.43
00081275	AP02601	PR	02	01	MAY 17, 1988	APR 19, 1988	1945	2200	1			3	50.0	87.60
00081312	AP02639	PR	02	01	JUN 14, 1988	MAY 17, 1988	1827	1945	1			3	30.0	43.12
00081354	AP02715	PR	02	01	JUL 12, 1988	JUN 14, 1988	2030	1827	1			3	65.0	89.08
00081404	AP02735	PR	02	01	AUG 9, 1988	JUL 12, 1988	1810	2030	1			3	85.0	102.15
00081456	AP02805	PR	02	01	SEP 7, 1988	AUG 9, 1988	1838	1810	1			3	30.0	66.84
00081492	AP02854	PR	02	01	OCT 4, 1988	SEP 7, 1988	1800	1838	1			3	95.0	57.06
00081524	AP02898	PR	02	01	NOV 2, 1988	OCT 4, 1988	1730	1800	3			3	80.0	57.94
00081555	AP02918	PR	02	01	DEC 1, 1988	NOV 2, 1988	1230	1730	3		1	2	115.0	74.56
00081582	AP02940	PR	02	01	DEC 29, 1988	DEC 1, 1988	1215	1230	2	1		2	49.6	33.90

SAMPLE NUMBER	FIELD COMMENTS	OFFICE COMMENTS	VOLUME ML	CONDUCT UMHO/CM	LAB.PH	ACIDITY.TFE	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
00081152		N	558	11.00	4.67	****	0.65	0.45	0.30
00081184			453	11.00	4.80	****	0.55	0.33	0.18
00081215		NC	432	9.00	4.98	****	0.45	0.22	0.10
00081244	G		1608	8.50	4.86	****	0.80	0.14	<W 0.02
00081275			1422	20.50	4.56	****	3.00	0.32	0.44
00081312		NC	420	67.50	UG 7.82	****	6.55	0.61	2.80
00081354	D		1880	14.50	4.75	****	1.85	0.26	0.22
00081404			2819	6.00	4.98	****	0.70	0.12	<T 0.04
00081456	Q	HCM	651	7.00	4.49	****	1.00	0.18	0.18
00081492			1760	15.50	4.55	****	1.55	0.11	<T 0.06
00081524			1493	UG 19.00	UG 4.72	****	UG 1.30	LG 0.22	LG 0.14
00081555		C	2788	29.00	4.59	****	1.10	0.23	<T 0.06
00081582		N	549	4.00	4.95	****	0.35	0.16	<T 0.06

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=NE STATION=MOOSONEE MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00081152	0.09	0.190	0.040	<T 0.005	0.065	0.050	<T 0.002	< 0.001
00081184	0.17	0.230	<T 0.020	<W 0.005	0.045	0.120	<W 0.002	0.001
00081215	0.12	0.190	<T 0.020	<T 0.010	0.045	0.100	<W 0.002	0.001
00081244	<T 0.04	0.190	<W 0.005	<W 0.005	<W 0.005	0.140	<T 0.003	<T 0.001
00081275	0.12	0.500	0.055	0.055	0.050	0.350	<T 0.006	0.005
00081312	1.12	UG 5.600	UG 0.620	UG 0.850	0.975	UG 4.070	0.508	<T 0.001
00081354	0.15	0.480	0.050	0.035	0.065	0.342	<T 0.008	0.003
00081404	<W 0.01	0.110	<T 0.015	<T 0.020	<T 0.015	0.070	<W 0.002	<T 0.001
00081456	0.06	0.220	0.035	0.050	0.035	0.180	<T 0.009	0.005
00081492	0.46	<T 0.080	0.040	<T 0.020	0.275	0.116	<W 0.002	<T 0.001
00081524	UG 1.89	LG 0.220	0.165	0.060	UG 1.130	LG 0.096	<T 0.002	UG 0.001
00081555	0.41	0.100	0.025	<T 0.015	0.220	0.086	<W 0.002	0.001
00081582	0.10	<T 0.070	<T 0.015	<T 0.010	0.040	0.036	<T 0.003	0.001

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00081152	0.0007	0.011	0.074	1DT 0.040	< 0.0004	< 0.014	1DT 0.0006	43.70
00081184	< 0.0002	0.003	0.011	1DT 0.016	< 0.0004	< 0.016	1DT 0.0063	41.20
00081215	0.0002	< 0.003	0.022	0.021	< 0.0004	1DT 0.012	< 0.0007	31.70
00081244	<W 0.0010	<T 0.007	1DT 0.007	1DT 0.002	<T 0.0004	<T 0.008	1DT 0.0002	34.30
00081275	<W 0.0010	0.012	<T 0.018	1DT 0.006	<T 0.0004	<T 0.009	<T 0.0010	60.40
00081312	<T 0.0069	0.023	0.108	1DT 0.034	<T 0.0004	<T 0.043	0.0050	<T 3.70
00081354	<W 0.0010	<T 0.008	<T 0.041	0.038	<T 0.0004	<T 0.008	1DT 0.0002	46.80
00081404	<W 0.0010	<T 0.004	1DT 0.004	1DT 0.010	<T 0.0004	<T 0.007	1DT 0.0003	27.90
00081456	<W 0.0010	<T 0.006	1DT 0.013	<T 0.034	<T 0.0004	<T 0.013	1DT 0.0170	59.60
00081492	<W 0.0010	1DT 0.001	1DT 0.005	<W 0.002	<T 0.0004	<T 0.008	<T 0.0005	50.70
00081524	<T 0.0002	UG 0.004	1DT 0.048	|BL ****	<T 0.0000	UG 0.008	1DT 0.0005	UG 40.40
00081555	<W 0.0001	0.003	1DT 0.004	|BL ****	<T 0.0001	0.007	<T 0.0005	47.70
00081582	<W 0.0001	0.006	<W 0.011	|BL ****	<T 0.0000	0.016	<T 0.0015	28.50

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                                                            ONTARIO MINISTRY OF THE ENVIRONMENT
                                                       APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                                      DATA LISTING
                                                            CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=NE STATION=TURKEY LAKES MIC TYPE A SITE NO.1 --------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

  00081148  AP02461     PR     02      01    JAN 26, 1988 DEC 29, 1987  1240   1230    2                 2     109.3    71.89
  00081180  AP02499     PR     02      01    FEB 23, 1988 JAN 26, 1988  1130   1240    2           1     2      69.3    79.29
  00081211  AP02540     PR     02      01    MAR 22, 1988 FEB 23, 1988  1000   1130    2                 2      73.6    56.24
  00081240  AP02559     PR     02      01    APR 19, 1988 MAR 22, 1988  1210   1000    1                 2     106.0    81.94
  00081271  AP02601     PR     02      01    MAY 17, 1988 APR 19, 1988  0900   1210    1                 2      53.3    74.31
  00081308  AP02639     PR     02      01    JUN 14, 1988 MAY 17, 1988  1130   0900    1                 3      23.0    76.60
  00081350  AP02715     PR     02      01    JUL 12, 1988 JUN 14, 1988  1230   1130    1                 3      73.0    84.85
  00081400  AP02735     PR     02      01     AUG 9, 1988 JUL 12, 1988  1115   1230    1                 3     117.0    97.27
  00081452  AP02805     PR     02      01     SEP 6, 1988  AUG 9, 1988  1050   1115    1                 3     242.0    85.27
  00081488  AP02854     PR     02      01     OCT 4, 1988  SEP 6, 1988  1150   1050    1           1     3     129.0    88.44
  00081520  AP02898     PR     02      01     NOV 1, 1988  OCT 4, 1988  1250   1150    1                 2     136.0    89.73
  00081551  AP02918     PR     02      01    NOV 29, 1988  NOV 1, 1988  1400   1250    3                 2     199.5    80.28
  00081578  AP02940     PR     02      01    DEC 27, 1988 NOV 29, 1988  1400   1400    2           1     2     106.5    82.02
   SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML            UMHO/CM                                   MG/L          MG/L          MG/L

  00081148            HM         2551            15.50       4.48         ****              0.70       0.39             0.14
  00081180   FJ                  1784            20.50       4.45         ****              1.95       0.64             0.22
  00081211   B                   1344            29.00       4.58         ****              3.05       0.83             0.38
  00081240                       2820            28.00       4.51         ****              2.90       0.63             0.44
  00081271   AC       H          1286            20.00       5.30         ****              3.45       0.66      B      0.90
  00081308   C                    572            25.00       4.71         ****              3.75       0.64      UG     0.74
  00081350                       2011            11.50       4.90         ****              1.35       0.29             0.18
  00081400   D                   3695            25.50       4.35         ****              3.00       0.48             0.28
  00081452            HCM        6700      D     20.00       4.14         ****       D      2.60       0.28             0.18
  00081488   C                   3704            22.50       4.56         ****              2.75       0.48             0.58
  00081520                       3253            14.00       4.58         ****       UG     1.25       0.29      <T     0.06
  00081551                       5317            31.00       4.33         ****              1.50       0.37      <T     0.06
  00081578   Q                   2839            11.00       4.56         ****              1.40       0.46             0.14
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

REGION=NE STATION=TURKEY LAKES MIC TYPE A SITE NO.1

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00081148	<W 0.01	0.260	<T 0.015	<T 0.005	0.035	0.190	<T 0.002	0.001
00081180	0.20	D 0.650	D 0.040	<T 0.020	D 0.090	D 0.440	<T 0.005	D 0.003
00081211	0.17	0.900	0.060	0.035	0.115	D 0.930	<W 0.002	0.005
00081240	0.09	0.610	0.065	0.035	0.040	0.530	0.010	B 0.014
00081271	0.10	UG 1.180	B 0.145	0.135	0.095	0.775	0.048	B 0.017
00081308	0.16	0.860	UG 0.150	0.105	0.060	0.698	<T 0.006	0.011
00081350	0.05	0.450	0.035	0.025	<T 0.020	0.324	<W 0.002	<T 0.002
00081400	0.12	0.560	0.070	0.045	D 0.060	0.456	<T 0.002	0.004
00081452	<T 0.05	0.340	0.035	<T 0.020	<T 0.025	D 0.336	<T 0.005	<T 0.002
00081488	0.08	0.390	0.065	0.075	0.030	0.360	0.017	UG 0.018
00081520	0.07	0.350	<T 0.010	<T 0.020	<T 0.015	0.226	<T 0.002	0.001
00081551	0.06	0.240	<W 0.005	<T 0.010	<T 0.015	0.216	<W 0.002	0.001
00081578	0.11	0.350	<T 0.020	<T 0.020	0.040	0.306	<T 0.003	0.002

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00081148	0.0002	1DT 0.002	0.013	0.027	< 0.0004	1DT 0.009	1DT 0.0005	56.30
00081180	< 0.0002	0.006	0.022	1DT 0.003	< 0.0004	< 0.008	1DT 0.0011	66.20
00081211	0.0004	1DT 0.006	0.038	0.013	< 0.0004	0.015	< 0.0003	53.90
00081240	<W 0.0010	<T 0.008	<T 0.044	1DT 0.002	<T 0.0004	<T 0.023	1DT 0.0004	60.40
00081271	<W 0.0010	<T 0.005	0.047	1DT 0.004	<T 0.0004	<T 0.022	1DT 0.0004	37.20
00081308	<W 0.0010	<T 0.008	<T 0.070	1DT 0.021	<T 0.0004	<T 0.021	<T 0.0023	51.30
00081350	<W 0.0010	1DT 0.001	1DT 0.013	<T 0.019	<T 0.0004	<T 0.007	1DT 0.0003	33.50
00081400	<W 0.0010	<T 0.003	<T 0.014	1DT 0.017	<T 0.0004	<T 0.007	1DT 0.0002	63.20
00081452	<W 0.0010	<T 0.003	<T 0.018	0.030	<T 0.0004	<T 0.008	1DT 0.0001	B 113.00
00081488	<W 0.0010	1DT 0.001	<T 0.007	<W 0.001	<T 0.0004	<T 0.008	1DT 0.0002	52.90
00081520	<W 0.0001	1DT 0.003	<W 0.005	|BL ****	<T 0.0001	0.007	1DT 0.0003	50.80
00081551	<T 0.0002	0.002	1DT 0.005	|BL ****	<T 0.0002	0.005	<T 0.0004	74.80
00081578	<T 0.0001	0.005	1DT 0.007	|BL ****	<T 0.0002	0.017	<T 0.0008	48.10

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                                                  ONTARIO MINISTRY OF THE ENVIRONMENT
                                             APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                             DATA LISTING
                                                  CUMULATIVE SAMPLING ANALYSIS RESULTS

---------------------------------------- REGION=NE STATION=WHITNEY MIC TYPE A SITE NO.1 ----------------------------------------

  SAMPLE   SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
  NUMBER   NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

 00076049  AP02456     PR     02      01    JAN 26, 1988 DEC 29, 1987  1335   1330    3                 2     51.0        71.81
 00076057  AP02483     PR     02      01    FEB 23, 1988 JAN 26, 1988  0845   1335    3                 2     83.0        66.87
 00076062  AP02523     PR     02      01    MAR 22, 1988 FEB 23, 1988  1350   0845    3                 2     26.0        90.03
 00076070  AP02558     PR     02      01    APR 19, 1988 MAR 22, 1988  1540   1350    3                 2     52.0        88.49
 00076082  AP02631     PR     02      01    MAY 17, 1988 APR 19, 1988  1525   1540    1                 3     93.0        91.54
 00076083  AP02631     PR     02      01    JUN 14, 1988 MAY 17, 1988  0835   1525    1                 3      7.0       141.24
 00076088  AP02703     PR     02      01    JUL 12, 1988 JUN 14, 1988  0845   0835    1                 3     41.0       101.64
 00076094  AP02744     PR     02      01     AUG 9, 1988 JUL 12, 1988  1650   0845    1                 3     97.0        93.07
 00076099  AP02801     PR     02      01     SEP 6, 1988  AUG 9, 1988  1620   1650    1                 3     80.0        96.56
 00076104  AP02834     PR     02      01     OCT 4, 1988  SEP 6, 1988  0930   1620    1                 3     43.0       117.54
 00076109  AP02886     PR     02      01     NOV 2, 1988  OCT 4, 1988  1155   0930    3                 3     78.0        95.05
 00076113  AP02924     PR     02      01    NOV 29, 1988  NOV 2, 1988  0835   1155    3                 2     73.0        83.54
 00076122  AP03018     PR     02      01    DEC 28, 1988 NOV 29, 1988  0930   0835    3           1     2     45.0        72.28
  SAMPLE  FIELD    OFFICE   VOLUME         CONDUCT       LAB.PH         ACIDITY.TFE   SULFATE        NITRATE        CALCIUM
  NUMBER  COMMENTS COMMENTS
                            ML             UMHO/CM                                    MG/L           MG/L           MG/L

 00076049              M        1189          21.50              4.49       ****         1.50           0.56              0.18
 00076057                       1802          24.50              4.28       ****         1.60           0.69              0.20
 00076062                        760          41.00              4.13       ****         2.85           1.00              0.38
 00076070     A                 1494          39.00              4.21       ****         3.60           0.73              0.40
 00076082                       2764          26.50              4.41       ****         2.60           0.53              0.28
 00076083     Q        NH        321          19.50      UG      5.29       ****         2.95           0.58        B     0.90
 00076088                       1353          21.50              4.49       ****         2.50           0.45              0.30
 00076094     C                 2931          28.00              4.27       ****         2.60           0.45              0.18
 00076099     A        HCM      2508          26.50      UG      6.77       ****         3.25           0.33              0.14
 00076104     C        M        1641          22.50              4.36       ****         2.75           0.41              0.28
 00076109     Q                 1837          17.50              4.29       ****         1.60           0.42        <T    0.08
 00076113              M        1960          26.00              4.36       ****         2.47           0.52              0.19
 00076122     IQ                1050          16.50              4.44       ****         1.35           0.49              0.18
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=NE STATION=WHITNEY MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00076049	0.15	0.310	<T 0.020	<T 0.010	0.065	0.200	D 0.012	0.001
00076057	0.21	0.340	0.030	<W 0.005	0.085	0.260	<T 0.006	0.001
00076062	0.22	0.610	0.040	<T 0.020	0.085	0.480	<T 0.007	0.003
00076070	0.23	0.470	0.050	0.080	0.115	0.380	0.015	0.005
00076082	0.08	0.530	0.045	0.030	0.030	0.434	<T 0.007	0.004
00076083	0.15	0.850	B 0.185	0.205	B 0.095	0.396	0.027	UG 0.011
00076088	0.09	0.490	0.050	0.045	0.030	0.442	<T 0.004	0.005
00076094	0.12	0.310	0.040	0.055	0.045	0.240	<T 0.002	<T 0.001
00076099	<W 0.01	0.310	0.031	<T 0.025	<T 0.020	0.300	0.016	<T 0.001
00076104	<W 0.04	0.370	0.035	<T 0.005	0.025	B 0.037	<W 0.002	<T 0.002
00076109	<W 0.01	0.240	<T 0.010	<T 0.015	<T 0.015	0.190	<T 0.002	0.001
00076113	0.26	0.260	0.020	0.025	0.072	0.216	<T 0.004	0.003
00076122	0.16	0.350	<T 0.020	<T 0.020	0.065	0.136	0.018	0.003

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00076049	< 0.0002	1DT 0.001	0.011	1DT 0.004	< 0.0004	1DT 0.011	1DT 0.0003	71.90
00076057	< 0.0002	< 0.002	0.029	0.003	< 0.0004	1DT 0.010	< 0.0003	80.00
00076062	< 0.0002	0.002	0.013	1DT 0.006	< 0.0004	1DT 0.017	< 0.0005	100.00
00076070	<W 0.0010	<T 0.010	<T 0.035	<W 0.002	<T 0.0004	<T 0.015	1DT 0.0004	92.40
00076082	<W 0.0010	<T 0.002	<T 0.025	1DT 0.003	<T 0.0004	<T 0.012	1DT 0.0002	64.70
00076083	<W 0.0010	<T 0.011	<T 0.104	1DT 0.022	< 0.0004	<T 0.043	<T 0.0014	LG 29.60
00076088	<W 0.0010	1DT 0.001	1DT 0.043	1DT 0.004	<T 0.0004	0.021	<T 0.0007	49.10
00076094	<W 0.0010	<T 0.004	<T 0.019	0.023	<T 0.0004	<T 0.007	1DT 0.0003	81.10
00076099	<W 0.0010	1DT 0.001	0.019	1DT 0.009	<T 0.0004	<T 0.007	<T 0.0004	LG 22.00
00076104	<W 0.0010	1DT 0.001	<T 0.050	<W 0.002	<T 0.0004	<T 0.008	1DT 0.0002	68.40
00076109	<T 0.0001	1DT 0.002	1DT 0.026	|BL ****	<T 0.0001	0.012	1DT 0.0003	77.00
00076113	<T 0.0002	UG 0.014	1DT 0.032	|BL ****	<T 0.0003	0.018	<T 0.0009	71.30
00076122	<T 0.0005	0.004	<T 0.144	0.002	<T 0.0002	0.027	<T 0.0007	57.10

PART V

NORTHWESTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

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                                                   ONTARIO MINISTRY OF THE ENVIRONMENT
                                              APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                                DATA LISTING
                                                   CUMULATIVE SAMPLING ANALYSIS RESULTS

----------------------------------------- REGION=NW STATION=DORION MIC TYPE A SITE NO.1 -------------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB           SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT       REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE          DATE                 HR     HR           EXP   REM.

  00031634  AP02475     PR     02      01    JAN 26, 1988 DEC 29, 1987   0902   0845    3                 2        1.3      670.49
  00031635  AP02483     PR     02      01    FEB 23, 1988 JAN 26, 1988   0908   0906    2                 2       37.8       30.80
  00031636  AP02540     PR     02      01    MAR 22, 1988 FEB 23, 1988   0935   0911    2                 2       38.7       49.10
  00031637  AP02558     PR     02      01    APR 19, 1988 MAR 22, 1988   0922   0942    2                 2       46.8       80.95
  00031638  AP02631     PR     02      01    MAY 17, 1988 APR 19, 1988   0902   0934    1                 2       37.5       88.46
  00031639  AP02651     PR     02      01    JUN 14, 1988 MAY 17, 1988   0905   0907    1                 3       19.0      104.72
  00031640  AP02715     PR     02      01    JUL 12, 1988 JUN 14, 1988   1020   0910    1                 3       62.0       89.92
  00031641  AP02772     PR     02      01     AUG 9, 1988 JUL 12, 1988   0915   1020    1                 3       98.0       94.29
  00031642  AP02801     PR     02      01     SEP 6, 1988  AUG 9, 1988   0930   0918    1                 3      162.0       93.83
  00031643  AP02854     PR     02      01     OCT 4, 1988  SEP 6, 1988   0920   0932    1           1     3       98.0       91.17
  00031644  AP03172     PR     02      01     NOV 1, 1988  OCT 4, 1988   0910   0922    3     1           2       84.2       85.41
  00031645  AP03170     PR     02      01    NOV 29, 1988  NOV 1, 1988   0900   0913    3                 2      185.8       65.76
  00031646  AP02961     PR     02      01    DEC 28, 1988 NOV 29, 1988   0945   0904    2                 2       40.9       94.43
   SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE    SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML            UMHO/CM                                    MG/L          MG/L          MG/L

  00031634   QP                    283           11.50          4.53        ****             0.55          0.37          0.12
  00031635             N           378           14.00          4.58        ****             0.85          0.46          0.14
  00031636             N           617           13.50          4.70        ****             1.60          0.31          0.26
  00031637                        1230           26.00          4.45        ****             2.85          0.40          0.16
  00031638   DBQ                  1077     UG    20.50          4.99        ****      UG     3.65          0.48          0.68
  00031639   ACQ       HM          646     B     75.00   UG     7.63        ****      B      6.25   UG     1.13   B      2.12
  00031640                        1810           10.50          5.16        ****             1.45          0.42          0.24
  00031641   ADQ       HM         3000            5.50          5.29        ****      LG     0.20          0.10          0.18
  00031642                        4935              ****          ****      ****              ****          ****          ****
  00031643                        2901           13.00          4.71        ****             1.45          0.25          0.16
  00031644   ABIM      HM          764            7.30          6.49        ****             1.55          0.38          0.34
  00031645   G                    3995            6.30          5.07        ****             1.10          0.16          0.12
  00031646   CFI       M          1245           12.50          4.38        ****             1.30          0.28          0.10
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                                        ONTARIO MINISTRY OF THE ENVIRONMENT
                                    APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                   DATA LISTING
                                        CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------ REGION=NW STATION=DORION MIC TYPE A SITE NO.1 ------------------------------------

 SAMPLE   CHLORIDE    KJELDAHL    MAGNESIUM   POTASSIUM   SODIUM      AMMONIUM    PHOSPHOR    MANGANESE
 NUMBER
          MG/L        MG/L        MG/L        MG/L        MG/L        MG/L        MG/L        MG/L

00031634        0.19       0.190  <T   0.010  <W   0.005       0.145  <W   0.005       0.023  <    0.001
00031635        0.22       0.270  <T   0.025  <T   0.010       0.130       0.120       0.020  <    0.001
00031636        0.18       0.360       0.040  <T   0.020       0.130       0.260  <T   0.005       0.002
00031637        0.08       0.490       0.025  <T   0.010       0.065       0.430  <T   0.007       0.003
00031638        0.14       1.020       0.135       0.115       0.205  D    0.686       0.066  UG   0.017
00031639        0.07  U    9.500  B    0.380  U    1.060       0.110  U    6.950  U    0.875       0.011
00031640        0.08       0.620       0.050       0.070       0.045       0.494       0.012       0.004
00031641  <W    0.01       0.400       0.025       0.030       0.025       0.266       0.015       0.003
00031642        ****        ****        ****        ****        ****        ****        ****        ****
00031643  <T    0.04       0.280  <T   0.025       0.030       0.030       0.276  <W   0.002       0.003
00031644        0.11       0.580       0.050       0.040       0.035       0.416       0.017       0.003
00031645        0.15  UG   0.630  <T   0.010       0.065       0.085       0.228       0.010       0.002
00031646        0.14       0.190  <T   0.025  <T   0.015       0.075       0.114  <T   0.008       0.001
 SAMPLE   NICKEL      ZINC        IRON        LEAD        VANADIUM    ALUMINUM    COPPER      ACIDITY GRAN
 NUMBER
          MG/L        MG/L        MG/L        MG/L        MG/L        MG/L        MG/L        UG/L

00031634  <   0.0002  <    0.005       0.011       0.008  <   0.0004  1DT  0.026  D   0.0082       49.60
00031635  <   0.0002  <    0.004       0.015       0.012  <   0.0004  1DT  0.017  1DT 0.0022       59.10
00031636  <   0.0002  1DT  0.003       0.021  1DT  0.018  <   0.0004  1DT  0.010  <   0.0005       44.00
00031637  <W  0.0010  <T   0.007  <T   0.013  1DT  0.002  <T  0.0004  <T   0.009  1DT 0.0003       74.70
00031638  <W  0.0010  <T   0.009  <T   0.028  1DT  0.005  <T  0.0004  <T   0.028  1DT 0.0009       40.00
00031639  <W  0.0010  <T   0.015       0.076  1DT  0.030  <T  0.0004  <T   0.019  <T  0.0022       20.10
00031640  <W  0.0010  1DT  0.002  1DT  0.020  1DT  0.025  <T  0.0004  <T   0.008  1DT 0.0002       32.30
00031641  <W  0.0010  1DT  0.001  1DT  0.015  1DT  0.009  <T  0.0004  <T   0.009  1DT 0.0004       25.20
00031642        ****        ****        ****        ****        ****        ****        ****        ****
00031643  <W  0.0010  1DT  0.001  1DT  0.016  <W   0.001  <T  0.0004  <T   0.007  1DT 0.0002       42.50
00031644  <T  0.0003       0.004  <T   0.049       0.003  <T  0.0002       0.073  <T  0.0011       19.00
00031645  <T  0.0004  UG   0.007  1DT  0.013       0.002  <T  0.0002       0.026  <T  0.0012       26.40
00031646  <T  0.0003  1DT  0.003  <W   0.007       0.001  <T  0.0003       0.010  1DT 0.0005       66.40
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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

----------------------------------------- REGION=NW STATION=E.L.A. MIC TYPE A SITE NO.1 -----------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

  00013235  AP02475     PR     02      01     JAN 26, 1988 DEC 29, 1987  0955   1000    3                 2       16.9       59.96
  00013236  AP02512     PR     02      01     FEB 23, 1988 JAN 26, 1988  1045   0955    2                 2       30.2           .
  00013237  AP02540     PR     02      01     MAR 22, 1988 FEB 23, 1988  1000   1045    2           1     2       14.2      140.77
  00013238  AP02558     PR     02      01     APR 19, 1988 MAR 22, 1988  1015   1000    3     1           2       37.5       68.83
  00013239  AP02631     PR     02      01     MAY 17, 1988 APR 19, 1988  1037   1015    1                 3       11.0      124.04
  00013240  AP02651     PR     02      01     JUN 14, 1988 MAY 17, 1988  1039   1037    1                 3       26.0       80.55
  00013241  AP02715     PR     02      01     JUL 12, 1988 JUN 14, 1988  0920   1039    1     1           3      215.0       82.37
  00013242  AP02772     PR     02      01      AUG 9, 1988 JUL 12, 1988  0940   0920    1                 3       38.0      112.83
  00013243  AP02801     PR     02      01      SEP 7, 1988  AUG 9, 1988  0952   0940    1                 3       37.0       87.32
  00013244  AP02854     PR     02      01      OCT 3, 1988  SEP 7, 1988  0903   0952    2           1     3       51.0       77.30
  00013245  AP03172     PR     02      01      NOV 1, 1988  OCT 3, 1988  1145   0903    3     1           3       35.8       49.73
  00013246  AP03170     PR     02      01     NOV 29, 1988  NOV 1, 1988  1030   1145    3                 2       39.6        9.10
  00013247  AP02961     PR     02      01     DEC 31, 1988 NOV 29, 1988  1050   1130    3     1           2       33.0       30.99
   SAMPLE  FIELD    OFFICE   VOLUME         CONDUCT       LAB.PH         ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML             UMHO/CM                                    MG/L          MG/L          MG/L

  00013235                   C     329            11.00          4.56       ****             0.80          0.35  <T    0.10
  00013236   GE                   ****            ****           ****       ****             ****          ****          ****
  00013237                   N     649             8.50   UG     5.55       ****             0.95          0.28        0.22
  00013238                   H     838            11.50   UG     5.59       ****             1.95          0.31        0.22
  00013239   CQP                   443            14.50   UG     6.99       ****             2.45          0.47  UG    1.26
  00013240   AC                    680            14.00   UG     6.78       ****             1.90          0.46        0.58
  00013241   AQ              H    5750             6.00          5.74       ****             1.00          0.27        0.14
  00013242   QBC             C    1392             8.00   UG     6.65       ****             0.55          0.22        0.34
  00013243                   M    1049             8.00   UG     6.83       ****       D     1.50          0.29        0.46
  00013244                   HZ   1280            12.50          5.28       ****             2.15          0.39        0.66
  00013245                   NH    576             5.65          6.24       ****             1.05          0.38        0.18
  00013246   Q               N     108     !IS    ****   !IS    ****       ****       !IS    ****   !IS    ****  <T    0.08
  00013247   GFJ             Z     330            18.00          4.47       ****             1.30          0.57        0.14
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                                        ONTARIO MINISTRY OF THE ENVIRONMENT
                                    APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                   DATA LISTING
                                        CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------------ REGION=NW STATION=E.L.A. MIC TYPE A SITE NO.1 ----------------------------------

SAMPLE    CHLORIDE         KJELDAHL         MAGNESIUM        POTASSIUM        SODIUM           AMMONIUM         PHOSPHOR         MANGANESE
NUMBER
          MG/L             MG/L             MG/L             MG/L             MG/L             MG/L             MG/L             MG/L

00013235             0.13            0.200  <T        0.015  <W        0.005            0.160            0.080  D         0.043  <         0.001
00013236             ****             ****             ****             ****             ****             ****             ****             ****
00013237             0.09            0.460            0.040  <T        0.010            0.095            0.330            0.010            0.002
00013238             0.11            0.550            0.045  <T        0.015  D         0.465            0.280            0.010            0.004
00013239             0.16            0.860  UG        0.235            0.080  UG        0.255            0.306            0.046            0.005
00013240  <T         0.05            0.900            0.110            0.115            0.060            0.682            0.028            0.006
00013241             0.06            0.470            0.035            0.040            0.030            0.352            0.013            0.004
00013242             0.25            0.740            0.070            0.045            0.030            0.376            0.028  <T        0.002
00013243  <T         0.08  D         0.630            0.125            0.075            0.070  D         0.456            0.033  <T        0.001
00013244             0.06            0.730            0.075            0.080            0.040            0.490  D         0.026  UG        0.013
00013245             0.08            0.600            0.025            0.025            0.035            0.526  <T        0.006            0.003
00013246  !IS        ****  UG        0.540  <T        0.010  <T        0.005            0.245            0.160            0.034            0.002
00013247             0.18            0.380  <T        0.020  <T        0.015            0.125            0.172            0.023            0.003
SAMPLE    NICKEL           ZINC             IRON             LEAD             VANADIUM         ALUMINUM         COPPER           ACIDITY GRAN
NUMBER
          MG/L             MG/L             MG/L             MG/L             MG/L             MG/L             MG/L             UG/L

00013235           0.0006  <         0.004            0.018            0.007  <        0.0004  1DT       0.031  1DT      0.0019            50.10
00013236             ****             ****             ****             ****             ****             ****             ****             ****
00013237           0.0002  <         0.003            0.021  1DT       0.007  <        0.0004  <         0.013  1DT      0.0017            24.90
00013238  <W       0.0010  <T        0.003  1DT       0.020  <W        0.002  <T       0.0005  <T        0.011  1DT      0.0007            21.00
00013239  <W       0.0010  1DT       0.003  <T        0.090  1DT       0.019  <T       0.0004  <T        0.030  1DT      0.0006            16.60
00013240  <W       0.0010  1DT       0.002  1DT       0.025  1DT       0.009  <T       0.0004  <T        0.012  1DT      0.0005            19.30
00013241  <W       0.0010  <T        0.009  <T        0.013  1DT       0.007  <T       0.0004  <T        0.006  1DT      0.0001            26.70
00013242  <W       0.0010  1DT       0.001  <T        0.024  <T        0.028  <T       0.0004  <T        0.009  1DT      0.0002            20.00
00013243  <W       0.0010  1DT       0.002  <T        0.037  1DT       0.026  <T       0.0004  <T        0.010  1DT      0.0013            18.80
00013244  <W       0.0010  1DT       0.001  <T        0.048  <W        0.002  <T       0.0004  <T        0.013  1DT      0.0003            31.10
00013245  <T       0.0003            0.004  <W        0.011            0.003  <T       0.0001            0.036  1DT      0.0006            36.80
00013246  <W       0.0001  1DT       0.003  <T        0.317  UG        3.508  <T       0.0001            0.105  UG       0.1779  !IS        ****
00013247  <T       0.0007            0.005  1DT       0.019  UG        0.013  <T       0.0002            0.049  <T       0.0019            60.40
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                                              ONTARIO MINISTRY OF THE ENVIRONMENT
                                         APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                          DATA LISTING
                                              CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=NW STATION=EAR FALLS MIC TYPE A SITE NO.1 --------------------------------------

 SAMPLE  SUBMISSION LIS    PROJECT SUB         SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
 NUMBER  NUMBER     SAMPLE CODE    PROJECT     REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                    TYPE           CODE        DATE                 HR     HR           EXP   REM.

00013628  AP02475    PR     02      01    JAN 26, 1988 DEC 29, 1987 0900   0900    2                 2     19.9      81.41
00013629  AP02483    PR     02      01    FEB 23, 1988 JAN 26, 1988 1115   0900    2                 2     26.8      78.26
00013630  AP02540    PR     02      01    MAR 22, 1988 FEB 23, 1988 1000   1115    2                 2     46.3      39.58
00013631  AP02558    PR     02      01    APR 19, 1988 MAR 22, 1988 0900   1000    2                 2     29.8      63.36
00013634  AP02631    PR     02      01    MAY 17, 1988 APR 19, 1988 0900   0900    1                 3      2.1     962.13
00013635  AP02651    PR     02      01    JUN 14, 1988 MAY 17, 1988 0900   0900    1                 3     35.0      66.62
00013636  AP02715    PR     02      01    JUL 13, 1988 JUN 14, 1988 1500   0900    1                 3    140.0      94.14
00013637  AP02772    PR     02      01     AUG 9, 1988 JUL 13, 1988 0900   1500    1                 3     73.0      53.04
00013638  AP02801    PR     02      01     SEP 6, 1988  AUG 9, 1988 1500   0900    1                 3     72.0      54.24
00013639  AP02854    PR     02      01     OCT 4, 1988  SEP 6, 1988 0900   1500    1                 3    110.0      46.06
00013640  AP03172    PR     02      01     NOV 1, 1988  OCT 4, 1988 0900   0900    3                 3     39.1      74.12
00013641  AP03170    PR     02      01    NOV 29, 1988  NOV 1, 1988 1330   0900    2           1     2     49.6      49.49
00013642  AP02961    PR     02      01    DEC 28, 1988 NOV 29, 1988 0900   1330    2     1           2     13.2     153.53
 SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH       ACIDITY.TFE    SULFATE      NITRATE       CALCIUM
 NUMBER  COMMENTS COMMENTS
                          ML            UMHO/CM                                  MG/L         MG/L          MG/L

00013628                        526          7.50            4.96      ****            0.60          0.26          0.12
00013629            HM          681          7.50            5.00      ****            0.75          0.23          0.10
00013630            NHC         595          8.00      UG    5.74      ****            0.80          0.27          0.14
00013631            H           613          9.00            5.38      ****            1.25          0.24          0.26
00013634   QAP                  656          9.50            6.23      ****            1.50          0.28          0.60
00013635   QC       HM          757         15.00      UG    7.31      ****            1.85          0.54          0.78
00013636   QC                  4279          7.00            6.40      ****            1.15          0.19          0.26
00013637   GAQ      HCM        1257          5.50            6.37      ****       <W   0.05    LG    0.08          0.18
00013638   CG       HM         1268          4.50            6.28      ****            0.90          0.11          0.28
00013639   G                   1645         11.00            4.94      ****            1.50          0.18          0.20
00013640   C        HM          945          4.70            5.57      ****            0.70          0.23          0.10
00013641   C        N           706          3.80            5.41      ****            0.45          0.21          0.22
00013642            N           654          9.50            4.70      ****            0.85          0.30    <T    0.10
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=NW STATION=EAR FALLS MIC TYPE A SITE NO.1 --------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00013628	0.18	0.190	<T 0.020	<T 0.015	0.140	0.070	<T 0.009	< 0.001
00013629	0.13	0.270	<T 0.020	<T 0.010	0.090	0.110	0.013	0.001
00013630	0.10	0.390	D 0.025	<T 0.005	0.065	0.320	<T 0.002	0.002
00013631	0.13	0.360	0.045	<T 0.010	0.160	0.210	<T 0.008	0.004
00013634	0.12	0.390	0.095	0.050	0.145	0.192	0.013	0.004
00013635	<T 0.03	1.100	0.155	0.180	0.090	0.590	0.045	0.006
00013636	0.12	0.450	0.060	0.080	0.165	0.298	0.018	<T 0.001
00013637	0.07	0.610	0.035	0.100	D 0.095	0.326	0.023	<T 0.001
00013638	0.10	0.350	0.100	0.055	0.120	0.256	0.026	<T 0.001
00013639	<T 0.04	0.370	0.025	0.030	0.025	0.326	<T 0.004	0.004
00013640	0.12	0.250	<T 0.020	<T 0.020	0.055	0.164	0.011	0.002
00013641	0.12	0.200	<T 0.025	0.055	0.075	0.088	0.030	UG 0.009
00013642	0.17	0.190	<T 0.015	<T 0.010	0.115	0.074	0.014	0.002

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00013628	D 0.0016	1DT 0.007	0.018	1DT 0.006	< 0.0004	1DT 0.018	1DT 0.0012	35.70
00013629	0.0002	< 0.002	0.012	0.009	< 0.0004	1DT 0.014	0.0018	39.00
00013630	0.0002	< 0.003	0.010	1DT 0.014	< 0.0004	1DT 0.009	< 0.0005	21.30
00013631	<W 0.0010	<T 0.004	1DT 0.010	<W 0.003	<T 0.0004	<T 0.013	1DT 0.0004	21.80
00013634	<W 0.0010	1DT 0.002	<T 0.043	1DT 0.013	<T 0.0004	<T 0.014	1DT 0.0004	16.50
00013635	<W 0.0010	1DT 0.004	<T 0.103	1DT 0.010	<T 0.0004	<T 0.031	1DT 0.0005	16.30
00013636	<W 0.0010	<T 0.007	<T 0.050	0.035	<T 0.0004	<T 0.021	1DT 0.0002	25.40
00013637	<W 0.0010	<T 0.006	<T 0.037	1DT 0.023	<T 0.0004	<T 0.009	1DT 0.0007	20.20
00013638	<W 0.0010	1DT 0.002	<T 0.020	1DT 0.018	<T 0.0004	<T 0.009	1DT 0.0003	19.10
00013639	<W 0.0010	<T 0.005	1DT 0.010	<W 0.002	<T 0.0004	<T 0.008	<T 0.0004	35.80
00013640	<T 0.0003	1DT 0.003	<W 0.008	0.001	<T 0.0001	0.030	<T 0.0010	19.60
00013641	<T 0.0002	1DT 0.003	<T 0.040	0.001	<T 0.0001	0.031	<T 0.0013	23.30
00013642	<T 0.0007	1DT 0.003	<W 0.010	UG 0.004	<T 0.0001	0.024	<T 0.0012	39.60

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                                     ONTARIO MINISTRY OF THE ENVIRONMENT
                                 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                 DATA LISTING
                                     CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=NW STATION=GERALDTON MIC TYPE A SITE NO. 1 -------------------------------------

  SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE        EXPOSURE SAMPLE SAMPLE PREC.  PREC.  PREC. GAUGE GAUGE       EFFICIENCY
  NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL       DATE     END    START  TYPE   AT     AT    TYPE  DEPTH(MM) %
                     TYPE           CODE         DATE                   HR     HR            EXP    REM.

 00013387  AP02475    PR     02       01    JAN 26, 1988 DEC 29, 1987  1555   1650    2                    2      26.8        41.03
 00013389  AP02483    PR     02       01    FEB 23, 1988 JAN 26, 1988  1715   1555    2                    2      30.6        36.94
 00013391  AP02540    PR     02       01    MAR 22, 1988 FEB 23, 1988  1655   1715    2                    2      50.3        48.13
 00013393  AP02558    PR     02       01    APR 19, 1988 MAR 22, 1988  1400   1655    2                    2      51.3        53.67
 00013395  AP02631    PR     02       01    MAY 17, 1988 APR 19, 1988  1445   1400    1                    2      35.3       105.49
 00013397  AP02651    PR     02       01    JUN 14, 1988 MAY 17, 1988  1515   1445    1                    3      40.0        94.09
 00013399  AP02715    PR     02       01    JUL 13, 1988 JUN 14, 1988  1200   1515    1            1       3     166.0        65.40
 00013401  AP02772    PR     02       01     AUG 9, 1988 JUL 13, 1988  1435   1200    1     1              3     111.0        84.74
 00013403  AP02801    PR     02       01     SEP 6, 1988  AUG 9, 1988  1440   1435    1                    3      93.0        87.47
 00013405  AP02854    PR     02       01     OCT 4, 1988  SEP 6, 1988  1136   1440    1            1       3     110.0        88.73
 00013407  AP03172    PR     02       01    OCT 31, 1988  OCT 4, 1988  1600   1440    3                    2      83.4        50.34
 00013409  AP03170    PR     02       01    NOV 29, 1988 OCT 31, 1988  1110   1600    2                    2      81.5        16.10
 00013411  AP02961    PR     02       01    DEC 28, 1988 NOV 29, 1988  1000   1110    2                    2      33.6        20.17
  SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE  SULFATE        NITRATE       CALCIUM
  NUMBER  COMMENTS COMMENTS
                            ML            UMHO/CM                                  MG/L           MG/L          MG/L

 00013387            N          357        17.50             4.35        ****            1.05            0.45   <T   0.08
 00013389            N          367         9.50             4.80        ****            0.80            0.29        0.20
 00013391            N          786        20.50             4.61        ****            2.05            0.54        0.38
 00013393                       894        14.50             4.71        ****            1.65            0.20        0.28
 00013395    CQ      H         1209         8.00             5.03        ****            1.35            0.19        0.36
 00013397    Q                 1222        18.00       UG    6.79        ****            2.55            0.51        0.48
 00013399    GQ      H         3525         6.50             5.41        ****            1.15            0.22        0.18
 00013401    AC      HCM       3054         5.00             5.31        ****      <W    0.05      <W    0.01        0.14
 00013403    AC      HCM       2641         4.00             5.26        ****            0.70            0.13        0.12
 00013405                      3169         8.50             4.92        ****            1.00            0.16        0.12
 00013407    M       HM        1469         7.70             5.00        ****            1.30            0.24        0.10
 00013409    Q       NHM        424         6.90             5.09        ****            0.90            0.27   <T   0.08
 00013411    G       C          216         9.00             4.48        ****            0.75            0.24   <T   0.06
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

REGION=NW STATION=GERALDTON MIC TYPE A SITE NO. 1

SAMPLE NUMBER	CHLORIDE MG/L		KJELDAHL MG/L		MAGNESIUM MG/L		POTASSIUM MG/L		SODIUM MG/L		AMMONIUM MG/L		PHOSPHOR MG/L		MANGANESE MG/L	
00013387		0.15		0.220	<T	0.010	<W	0.005		0.090		0.080	<T	0.009	<	0.001
00013389		0.17		0.300	D	0.050	<T	0.015		0.100		0.120		0.022	<	0.001
00013391		0.13		0.480		0.045	<T	0.025		0.160		0.350	<T	0.003		0.004
00013393		0.07		0.190		0.035	<W	0.005		0.065		0.120	<T	0.007	<T	0.002
00013395		0.08		0.230		0.060		0.030		0.080		0.154	<T	0.008		0.008
00013397		0.18	UG	1.820		0.095	UG	0.340		0.060	UG	1.140		0.130	UG	0.012
00013399	<T	0.04		0.350		0.040		0.030		0.040		0.254	<T	0.009		0.005
00013401	<W	0.01		0.330	<T	0.020		0.030	<T	0.010		0.226		0.019	<T	0.002
00013403	<W	0.01		0.250		0.025		0.030		0.035		0.226		0.021	<T	0.002
00013405	<T	0.02		0.170	<T	0.020	<T	0.020		0.030		0.156		0.010		0.003
00013407		0.10		0.260	<T	0.015	<T	0.015		0.040		0.180	<T	0.008		0.001
00013409		0.13		0.260	<T	0.015	<T	0.015		0.050		0.136		0.010		0.002
00013411		0.19	!IS	****	<T	0.005	<W	0.005		0.140	<W	0.002	!IS	****		0.001

SAMPLE NUMBER	NICKEL MG/L		ZINC MG/L		IRON MG/L		LEAD MG/L		VANADIUM MG/L		ALUMINUM MG/L		COPPER MG/L		ACIDITY GRAN UG/L
00013387	<	0.0002	<	0.004		0.015	1DT	0.009		0.0004	1DT	0.019	1DT	0.0029	62.70
00013389		0.0002	<	0.004		0.014		0.004	<	0.0004	1DT	0.015	<	0.0007	47.60
00013391		0.0002	1DT	0.003		0.048	1DT	0.004	<	0.0004		0.024	<	0.0005	48.30
00013393	<W	0.0010	1DT	0.002	1DT	0.016	<T	0.014		0.0012	<T	0.011	1DT	0.0004	40.90
00013395	<W	0.0010	1DT	0.001	<T	0.035	1DT	0.009	<T	0.0004	<T	0.015	1DT	0.0003	28.10
00013397	<W	0.0010	<T	0.009	<T	0.035	1DT	0.012	<T	0.0004	<T	0.013	1DT	0.0008	22.10
00013399	<W	0.0010	1DT	0.002	1DT	0.032	1DT	0.006	<T	0.0004	<T	0.014	1DT	0.0003	27.80
00013401	<W	0.0010	1DT	0.001	1DT	0.008	1DT	0.015	<T	0.0004	<T	0.007	1DT	0.0002	23.90
00013403	<W	0.0010	1DT	0.002	1DT	0.007	1DT	0.005	<T	0.0004	<T	0.007	1DT	0.0003	25.80
00013405	<W	0.0010	1DT	0.001	1DT	0.019	<W	0.001	<T	0.0004	<T	0.009	<T	0.0009	34.40
00013407	<T	0.0003	1DT	0.003	<W	0.007		0.001	<T	0.0001		0.018	1DT	0.0009	23.50
00013409	<T	0.0004	1DT	0.002	<T	0.090		0.002	<T	0.0002		0.075	<T	0.0012	27.60
00013411	<T	0.0006	1DT	0.003	1DT	0.016	1DT	0.001	<T	0.0001		0.040	<T	0.0011	58.50

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                                               ONTARIO MINISTRY OF THE ENVIRONMENT
                                          APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                           DATA LISTING
                                               CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=NW STATION=LAC LA CROIX MIC TYPE A SITE NO.1 --------------------------------------

  SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
  NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                     TYPE           CODE         DATE                 HR     HR            EXP   REM.

 00095113  AP02475     PR     02      01    JAN 26, 1988 DEC 29, 1987  0800   0800    2                2       3.8     345.28
 00095114  AP02558     PR     02      01    FEB 29, 1988 JAN 26, 1988  0800   0800    2                2      36.9      35.89
 00095115  AP02558     PR     02      01    MAR 22, 1988 FEB 29, 1988  1000   0800    2                2     111.5      45.72
 00095116  AP02631     PR     02      01    APR 19, 1988 MAR 22, 1988  0800   1000    3                2      43.0       2.15
 00095117  AP02631     PR     02      01    MAY 17, 1988 APR 19, 1988  0800   0800    3                2      45.5      74.73
 00095118  AP02651     PR     02      01    JUN 14, 1988 MAY 17, 1988  0800   0800    1                3      70.0      80.83
 00095119  AP02715     PR     02      01    JUL 12, 1988 JUN 14, 1988  0800   0800    1                3      75.0      81.68
 00095120  AP02801     PR     02      01     AUG 9, 1988 JUL 12, 1988  0800   0800    1                3     195.0     101.99
 00095121  AP02854     PR     02      01     SEP 6, 1988  AUG 9, 1988  0800   0800    1                3     210.0      79.20
 00095122  AP02854     PR     02      01    OCT 13, 1988  SEP 6, 1988  0600   0800    1                3      90.0      85.62
 00095123  AP03172     PR     02      01     NOV 1, 1988 OCT 13, 1988  0800   1600    3                2      29.7      80.27
 00095124  AP02961     PR     02      01    DEC 12, 1988  NOV 1, 1988  0800   0800    3                2      64.1      64.34
 00095125  AP03018     PR     02      01    DEC 28, 1988 DEC 12, 1988  0800   0800    3                2       5.7     268.01
  SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE      NITRATE       CALCIUM
  NUMBER  COMMENTS COMMENTS
                            ML            UMHO/CM                                 MG/L         MG/L          MG/L

 00095113           N            426          10.00          4.66        ****           0.60          0.33          0.10
 00095114           NZ           430          17.50          4.63        ****           1.20          0.44          0.30
 00095115           NHCMZ       1655          15.00    UG    5.55        ****           1.85          0.42          0.46
 00095116    P                    30      !IS   ****  !IS     ****      ****      !IS    ****  !IS     ****  !IS     ****
 00095117    A      HC          1104           7.00          5.88        ****           1.00          0.18          0.20
 00095118    QC                 1837          13.00          5.13        ****           2.25          0.44          0.48
 00095119    CQ                 1989           8.00          5.66        ****           0.85          0.29          0.14
 00095120    A      HCM         6457           6.00          5.09        ****           0.70          0.23          0.14
 00095121    AC                 5400           5.00          5.49        ****           1.00          0.16          0.16
 00095122    F      Z           2502           6.00          5.09        ****           1.00          0.17          0.14
 00095123    Q      HZ           748           7.00          5.68        ****           1.25          0.40          0.34
 00095124    Q      Z           1338          10.50          4.70        ****           1.00          0.32          0.14
 00095125    Q      NZ           493          16.00          4.49        ****           0.90          0.55          0.10
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=NW STATION=LAC LA CROIX MIC TYPE A SITE NO.1 -------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00095113	0.07	0.140	<T 0.015	<W 0.005	0.050	0.040	<T 0.005	D 0.002
00095114	0.26	0.200	0.050	<T 0.020	0.190	0.020	0.019	0.007
00095115	0.30	0.570	0.050	0.065	0.250	0.290	0.041	B 0.011
00095116	!IS ****	!IS ****	!IS ****	!IS ****	!IS ****	0.750	!IS ****	****
00095117	0.07	0.430	0.045	0.065	0.080	0.192	0.016	0.005
00095118	0.08	0.700	0.070	0.075	0.025	0.526	0.012	0.010
00095119	0.05	0.460	<T 0.020	0.025	<T 0.020	0.398	<T 0.003	0.003
00095120	D 0.83	0.780	0.030	0.190	<T 0.020	D 0.706	D 0.054	<T 0.002
00095121	<T 0.05	0.260	0.030	0.030	0.040	0.236	<T 0.004	0.004
00095122	<T 0.03	0.240	<T 0.020	<T 0.020	<T 0.015	0.246	<T 0.003	<T 0.002
00095123	0.12	0.610	0.045	0.045	0.075	0.358	0.019	0.005
00095124	0.09	0.200	<T 0.015	<T 0.015	0.045	0.118	<T 0.006	UG 0.004
00095125	0.10	0.230	<T 0.015	<T 0.010	0.075	0.150	0.014	0.002

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00095113	< 0.0002	< 0.003	0.026	1DT 0.008	< 0.0004	1DT 0.014	1DT 0.0029	43.20
00095114	<W 0.0010	<T 0.013	0.054	<T 0.013	<T 0.0004	0.026	1DT 0.0013	48.40
00095115	<W 0.0010	<T 0.007	<T 0.012	<T 0.005	<T 0.0004	<T 0.010	1DT 0.0002	24.60
00095116	****	****	****	****	****	****	****	!IS ****
00095117	<W 0.0010	<T 0.003	<T 0.021	1DT 0.008	< 0.0004	<T 0.010	1DT 0.0003	20.40
00095118	<W 0.0010	<T 0.008	<T 0.045	1DT 0.011	<T 0.0004	<T 0.016	<T 0.0024	29.50
00095119	<W 0.0010	<T 0.004	1DT 0.018	1DT 0.020	<W 0.0001	<T 0.008	1DT 0.0002	23.40
00095120	<W 0.0010	1DT 0.001	<T 0.008	<T 0.006	<T 0.0004	<T 0.006	1DT 0.0002	28.30
00095121	<W 0.0010	1DT 0.001	1DT 0.022	<W 0.001	<T 0.0004	<T 0.009	1DT 0.0002	23.30
00095122	<W 0.0010	1DT 0.001	1DT 0.008	<W 0.001	<T 0.0004	<T 0.007	1DT 0.0002	27.10
00095123	<T 0.0005	1DT 0.004	1DT 0.023	0.002	<T 0.0002	0.051	1DT 0.0006	19.90
00095124	<W 0.0001	0.002	<T 0.015	1DT 0.001	<T 0.0001	0.012	<T 0.0005	40.20
00095125	<T 0.0004	0.003	1DT 0.012	0.002	<T 0.0001	0.025	1DT 0.0007	59.70

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                                              ONTARIO MINISTRY OF THE ENVIRONMENT
                                         APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                          DATA LISTING
                                              CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=NW STATION=PICKLE LAKE MIC TYPE A SITE NO.1 --------------------------------------

 SAMPLE SUBMISSION LIS    PROJECT SUB           SAMPLE     EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE        EFFICIENCY
 NUMBER NUMBER     SAMPLE CODE    PROJECT       REMOVAL    DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM)    %
                   TYPE           CODE          DATE                HR     HR            EXP   REM.

00013868 AP02475     PR     02      01     JAN 26, 1988 DEC 29, 1987 1230   1045    2                 2      13.4        143.89
00013869 AP02483     PR     02      01     FEB 23, 1988 JAN 26, 1988 1200   1230    2                 2      28.7         45.72
00013870 AP02540     PR     02      01     MAR 22, 1988 FEB 23, 1988 1130   1200    2           1     2      17.3         68.54
00013871 AP02558     PR     02      01     APR 19, 1988 MAR 22, 1988 1230   1130    2     1           2      33.8         67.80
00013872 AP02631     PR     02      01     MAY 17, 1988 APR 19, 1988 1230   1230    1                 3       1.2        847.00
00013873 AP02651     PR     02      01     JUN 21, 1988 MAY 17, 1988 1130   1230    1                 3     119.0         68.64
00013874 AP02715     PR     02      01     JUL 12, 1988 JUN 21, 1988 1130   1130    1                 3     130.0         49.80
00013875 AP02772     PR     02      01     AUG 10, 1988 JUL 12, 1988 0930   1130    1                 3      14.0        313.72
00013876 AP02801     PR     02      01      SEP 8, 1988 AUG 10, 1988 1405   0940    1                 3      81.0         75.25
00013877 AP02854     PR     02      01      OCT 4, 1988  SEP 8, 1988 1130   1405    3           1     3      86.0         89.96
00013878 AP03172     PR     02      01      NOV 2, 1988  OCT 4, 1988 1230   1130    3     1     1     2      25.3        124.17
00013879 AP03170     PR     02      01     NOV 29, 1988  NOV 2, 1988 1530   1230    3     1     1     2      31.9        129.28
00013880 AP02961     PR     02      01     DEC 27, 1988 NOV 29, 1988 1420   1530    2     1     1     2      39.4         50.11
 SAMPLE  FIELD    OFFICE   VOLUME         CONDUCT       LAB.PH        ACIDITY.TFE    SULFATE       NITRATE        CALCIUM
 NUMBER  COMMENTS COMMENTS
                           ML             UMHO/CM                                    MG/L          MG/L           MG/L

00013868            NM           626             6.00         4.87         ****            0.45    LG     0.17    <T    0.02
00013869            NM           426      LG     5.00         5.08         ****      D     0.50    LG     0.15    <T    0.06
00013870            HM           385             8.00   B     7.14         ****            1.20           0.20          0.54
00013871   Q        X            744              ****          ****       ****              ****           ****          ****
00013872   AP                    330      UG    20.50         4.87         ****      UG    3.30           0.47    UG    1.06
00013873   BJCQ     Z           2652            12.00         6.53         ****            1.75           0.29          0.38
00013874   ABCF     Z           2102             7.00         5.73         ****            1.00           0.28          0.28
00013875   ACF      HCM         1426             6.00         6.43         ****      LG    0.20           0.11          0.28
00013876   QF       HCM         1979             4.00         4.25         ****            0.65           0.11          0.22
00013877   GB       Z           2512             6.00         5.07         ****            0.70           0.09    <T    0.08
00013878   BCFJ                 1011             5.00         5.27         ****            0.80           0.16          0.14
00013879   C        N           1346      LG     2.30   UG    5.66         ****            0.40    LG     0.10          0.16
00013880   FJ                    632             4.00         4.99         ****            0.50           0.15          0.10
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=NW STATION=PICKLE LAKE MIC TYPE A SITE NO.1 -------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00013868	0.07	<T 0.080	<T 0.005	<W 0.005	0.055	<T 0.010	<T 0.009	< 0.001
00013869	0.14	0.160	<T 0.010	<T 0.005	0.100	D 0.050	0.018	< 0.001
00013870	0.15	0.230	D 0.150	<T 0.015	0.335	D 0.050	0.025	****
00013871	****	****	****	****	****	****	****	****
00013872	D 0.33	0.680	0.165	0.085	UG 0.240	0.214	0.027	UG 0.012
00013873	<T 0.02	0.900	0.090	UG 0.425	0.040	0.558	0.095	0.008
00013874	0.07	0.540	0.070	0.060	0.030	0.294	D 0.036	0.004
00013875	0.16	0.500	0.055	0.080	0.040	0.290	0.028	D 0.006
00013876	<T 0.02	0.290	0.050	0.040	0.045	0.210	0.026	0.003
00013877	<T 0.03	0.120	<T 0.015	<T 0.015	<T 0.010	0.120	<T 0.002	<T 0.001
00013878	0.09	0.350	0.030	0.065	0.110	0.134	0.025	0.003
00013879	0.19	0.160	0.025	0.075	0.155	LG 0.020	0.013	0.002
00013880	0.12	<T 0.070	0.030	<T 0.005	0.075	<W 0.002	0.010	0.001

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00013868	< 0.0002	< 0.003	0.006	0.004	< 0.0004	1DT 0.011	1DT 0.0015	33.10
00013869	< 0.0002	< 0.003	0.013	0.009	< 0.0004	1DT 0.014	< 0.0007	33.80
00013870	****	****	****	****	****	****	****	LG 16.20
00013871	****	****	****	****	****	****	****	****
00013872	<W 0.0010	<T 0.012	<T 0.083	1DT 0.031	<T 0.0004	<T 0.023	<T 0.0020	39.00
00013873	<W 0.0010	1DT 0.011	<T 0.034	1DT 0.008	<T 0.0004	<T 0.012	1DT 0.0011	24.40
00013874	<W 0.0010	<T 0.006	1DT 0.019	1DT 0.015	<T 0.0004	<T 0.008	1DT 0.0005	36.70
00013875	<W 0.0010	<T 0.004	<T 0.036	1DT 0.017	<T 0.0004	<T 0.011	1DT 0.0021	16.00
00013876	<W 0.0010	<T 0.008	1DT 0.019	0.026	<T 0.0004	<T 0.008	1DT 0.0006	UG 83.10
00013877	<W 0.0010	1DT 0.001	1DT 0.004	<W 0.001	<T 0.0004	<T 0.007	1DT 0.0002	30.50
00013878	<T 0.0004	0.004	<T 0.023	0.001	<T 0.0001	0.043	<T 0.0008	22.50
00013879	<T 0.0007	UG 0.012	<T 0.043	0.001	<T 0.0001	0.027	0.0022	19.80
00013880	<T 0.0007	1DT 0.002	1DT 0.010	1DT 0.001	<T 0.0001	0.016	<T 0.0011	28.40

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                                   ONTARIO MINISTRY OF THE ENVIRONMENT
                              APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                              DATA LISTING
                                  CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------ REGION=NW STATION=QUETICO CENTRE MIC TYPE A SITE NO.1 ------------------------------------

 SAMPLE   SUBMISSION LIS    PROJECT SUB         SAMPLE       EXPOSURE     SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
 NUMBER   NUMBER     SAMPLE CODE    PROJECT     REMOVAL      DATE         END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                     TYPE           CODE        DATE                      HR     HR           EXP   REM.

00095315  AP02475     PR     02      01     JAN 26, 1988 DEC 29, 1987  1400   0900    2                  2      15.9      57.53
00095316  AP02483     PR     02      01     FEB 23, 1988 JAN 26, 1988  0900   1400    2                  2      15.1      78.73
00095317  AP02540     PR     02      01     MAR 22, 1988 FEB 23, 1988  0900   0900    2                  2      52.1       9.75
00095318  AP02558     PR     02      01     APR 19, 1988 MAR 22, 1988  0900   0900    3                  2      44.1      58.18
00095319  AP02631     PR     02      01     MAY 26, 1988 APR 19, 1988  0900   0900    1                  3      76.7      63.37
00095320  AP02651     PR     02      01     JUN 14, 1988 MAY 26, 1988  0900   0900    1                  3      44.0      90.02
00095321  AP02703     PR     02      01     JUL 12, 1988 JUN 14, 1988  0900   0900    1                  3      61.0      88.71
00095322  AP02772     PR     02      01      AUG 9, 1988 JUL 12, 1988  0900   0900    1                  3     155.0      89.30
00095323  AP02801     PR     02      01      SEP 6, 1988  AUG 9, 1988  0900   0900    1                  3     210.0      96.80
00095324  AP02854     PR     02      01      OCT 4, 1988  SEP 6, 1988  1100   0900    1                  2      64.6      50.54
00095325  AP03172     PR     02      01      NOV 1, 1988  OCT 4, 1988  0900   1100    3                  2      57.5      83.40
00095326  AP03170     PR     02      01     NOV 29, 1988  NOV 1, 1988  0900   0900    3                  2      77.9      73.26
00095327  AP02961     PR     02      01     DEC 28, 1988 NOV 29, 1988  0900   0900    2                  2      22.0      69.58
 SAMPLE  FIELD    OFFICE   VOLUME     CONDUCT       LAB.PH     ACIDITY.TFE  SULFATE       NITRATE       CALCIUM
 NUMBER  COMMENTS COMMENTS
                           ML         UMHO/CM                               MG/L          MG/L          MG/L

00095315                297        14.50      4.46       ****         0.65         0.43         0.10
00095316        HM      386        10.50      4.85       ****         0.80         0.32         0.12
00095317        NH      165        12.50      5.29       ****         1.40         0.45         0.26
00095318                833        26.50      4.61       ****         3.20         0.72     B   0.72
00095319  Q     HZ     1578        11.00      4.99       ****         1.25         0.27         0.26
00095320        Z      1286        15.50      4.81       ****         2.05         0.40         0.42
00095321  CQ           1757        11.00      5.14       ****         1.30         0.29         0.20
00095322  A     HCM    4494         4.00      5.55       ****     <W  0.05     <T  0.02         0.14
00095323  GP    HCM    6600    LG   3.00      4.49       ****         0.55         0.10     <T  0.06
00095324  PB    H      1060        12.00      5.65       ****         2.60         0.46         0.74
00095325  B            1555         5.70      5.23       ****         0.85         0.21         0.20
00095326  G            1855         9.40      4.69       ****         0.70         0.27     <T  0.06
00095327  P             415        15.00      4.53       ****         0.80         0.45     <T  0.10
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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=NW STATION=QUETICO CENTRE MIC TYPE A SITE NO.1 ---------------------------------------

   SAMPLE   CHLORIDE       KJELDAHL       MAGNESIUM      POTASSIUM      SODIUM         AMMONIUM        PHOSPHOR       MANGANESE
   NUMBER
            MG/L           MG/L           MG/L           MG/L           MG/L           MG/L            MG/L           MG/L

  00095315         0.15         0.200      <T   0.015     <W   0.005          0.100           0.040          0.015          0.001
  00095316         0.10         0.230      <T   0.015     <W   0.005          0.060           0.130          0.011          0.001
  00095317         0.28         0.640           0.045          0.050          0.310           0.380          0.017          0.005
  00095318         0.15         0.860           0.065          0.055          0.130           0.650     D    0.025     B    0.014
  00095319         0.10         0.280           0.050          0.035          0.100           0.118          0.015          0.005
  00095320         0.12         0.590           0.050          0.080          0.050           0.452          0.010          0.007
  00095321         0.12         0.510           0.040          0.095          0.115           0.340          0.012          0.005
  00095322   <W    0.01         0.260      <T   0.015     <T   0.020     <T   0.010           0.226     <T   0.007          0.003
  00095323         0.12         0.210      <T   0.010     D    0.139     <T   0.020           0.206          0.018     <T   0.001
  00095324         0.09         0.590           0.125          0.095     D    0.100           0.530     <T   0.006          0.010
  00095325         0.08         0.330      <T   0.020     <T   0.020          0.055           0.222     <T   0.008          0.003
  00095326         0.09         0.120      <T   0.005     <T   0.010          0.030           0.078     <T   0.006          0.001
  00095327         0.13         0.150      <T   0.010     <T   0.010          0.100      LG   0.022          0.014          0.002
   SAMPLE   NICKEL         ZINC           IRON           LEAD           VANADIUM       ALUMINUM        COPPER         ACIDITY GRAN
   NUMBER
            MG/L           MG/L           MG/L           MG/L           MG/L           MG/L            MG/L           UG/L

  00095315   <   0.0002     <    0.004           0.022     1DT  0.007     <   0.0004      1DT  0.039     1DT 0.0010          57.40
  00095316   <   0.0002     <    0.004           0.015          0.006     <   0.0004      1DT  0.018     1DT 0.0019          45.60
  00095317       0.0002     1DT  0.020           0.036     <    0.007     <   0.0004      1DT  0.043     <   0.0014          29.00
  00095318   <W  0.0010          0.012     D    0.045     <T   0.012     <T  0.0004      <T   0.023     1DT 0.0005          55.80
  00095319   <W  0.0010     1DT  0.004     <T   0.024     1DT  0.009     <   0.0004      <T   0.013     1DT 0.0003          34.50
  00095320   <W  0.0010     1DT  0.003     <T   0.049     1DT  0.008     <T  0.0004      <T   0.016     1DT 0.0013          39.20
  00095321   <W  0.0010     1DT  0.001     <T   0.027     1DT  0.011     <T  0.0004      <T   0.013     1DT 0.0003          24.20
  00095322   <W  0.0010     1DT  0.001     1DT  0.001     1DT  0.008     <T  0.0004      <T   0.009     1DT 0.0004          20.50
  00095323   <W  0.0010     1DT  0.001     1DT  0.008     1DT  0.004     <T  0.0004      <T   0.007     1DT 0.0002     UG   57.00
  00095324   <W  0.0010     1DT  0.001     <T   0.051     <W   0.002     <T  0.0004      <T   0.011     1DT 0.0003          22.90
  00095325   <T  0.0004     1DT  0.003     1DT  0.010          0.001     <T  0.0001           0.028     1DT 0.0004          29.50
  00095326   <T  0.0001     1DT  0.001     1DT  0.021          0.001     <T  0.0001           0.017     <T  0.0006          39.60
  00095327   <T  0.0001          0.002     1DT  0.014     1DT  0.000     <T  0.0001           0.025     <T  0.0008          55.40
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PART VI

SOUTHEASTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

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                                ONTARIO MINISTRY OF THE ENVIRONMENT
                            APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                           DATA LISTING
                                CUMULATIVE SAMPLING ANALYSIS RESULTS

---------------------------------------- REGION=SE STATION=CLOYNE MIC TYPE A SITE NO.1 ----------------------------------------

  SAMPLE   SUBMISSION LIS    PROJECT SUB          SAMPLE         EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE       EFFICIENCY
  NUMBER   NUMBER     SAMPLE CODE    PROJECT      REMOVAL        DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                    HR     HR           EXP   REM.

 00094450   AP02548     PR     02      01     JAN 26, 1988 DEC 29, 1987  1600   1800    3                  2      52.0       63.26
 00094452   AP02548     PR     02      01     FEB 23, 1988 JAN 26, 1988  1730   1600    3                  2      87.0       92.29
 00094451   AP02548     PR     02      01     MAR 23, 1988 FEB 23, 1988  1730   1730    3                  2      16.0       55.63
 00068208   AP02639     PR     02      01     APR 19, 1988 MAR 23, 1988  0740   1730    3                  3      84.0       80.04
 00068209   AP02780     PR     02      01     MAY 17, 1988 APR 19, 1988  0720   0740    1           1      3      55.0         .
 00068210   AP02780     PR     02      01     JUN 14, 1988 MAY 17, 1988  0725   0720    1     1            3      27.0       93.65
 00068211   AP02780     PR     02      01     JUL 12, 1988 JUN 14, 1988  0720   0725    1                  3      32.0       87.20
 00068212   AP02780     PR     02      01      AUG 9, 1988 JUL 12, 1988  0835   0720    1                  3      69.0       32.85
 00068213   AP02898     PR     02      01      SEP 6, 1988  AUG 9, 1988  1700   0835    1                  3     105.0       77.70
 00068214   AP02898     PR     02      01      OCT 4, 1988  SEP 6, 1988  0700   1700    1     1            3      71.0       89.80
 00068215   AP02898     PR     02      01      NOV 1, 1988  OCT 4, 1988  0700   0700    1                  3     109.0       89.07
 00068216   AP02961     PR     02      01     NOV 29, 1988  NOV 1, 1988  1600   0700    3                  3      57.0       98.18
 00068217   AP03080     PR     02      01     DEC 28, 1988 NOV 29, 1988  0930   1600    3                  2      33.0      156.61
  SAMPLE   FIELD    OFFICE   VOLUME         CONDUCT        LAB.PH        ACIDITY.TFE   SULFATE        NITRATE        CALCIUM
  NUMBER   COMMENTS COMMENTS
                             ML             UMHO/CM                                    MG/L           MG/L           MG/L

 00094450                       1068        D    44.50          4.29          ****           3.20           1.12           0.70
 00094452                       2607             31.00          4.38          ****           2.10           0.65           0.36
 00094451                        289        UG   66.00          4.13          ****           6.20     UG    1.95           1.68
 00068208                        2183            38.50          4.25          ****           3.70           0.76           0.28
 00068209    GE                   ****            ****           ****         ****            ****           ****           ****
 00068210    AD       HCM        821        LG    6.00          4.69          ****     LG    0.85     <W    0.01           0.14
 00068211    Q        H          906             21.00          4.42          ****           2.40           0.30           0.20
 00068212    CD       NH         736             25.00          4.36          ****           3.25           0.36           0.24
 00068213    CDA      H         2639             35.00          4.28          ****           3.75           0.51           0.80
 00068214    D                  2034             33.00          4.25          ****           3.05           0.48           0.26
 00068215    GB       H         3088             13.00    UG    5.37          ****           2.10           0.38           0.96
 00068216    C                  1801             27.00          4.15          ****           2.50           0.56           0.14
 00068217    P                  1670             20.50          4.32          ****           1.85           0.53           0.26
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=SE STATION=CLOYNE MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00094450	0.52	0.630	0.075	0.030	0.270	0.430	0.011	0.004
00094452	0.34	0.360	0.045	<T 0.020	0.210	0.270	<T 0.004	0.003
00094451	UG 1.59	1.370	0.190	0.085	1.190	1.050	0.012	0.016
00068208	0.24	0.640	0.055	0.035	0.120	0.560	<T 0.003	0.005
00068209	****	****	****	****	****	****	****	****
00068210	<T 0.05	0.300	<T 0.015	0.060	0.065	<W 0.006	D 0.126	<T 0.001
00068211	<T 0.03	0.480	0.055	0.045	<T 0.025	0.380	0.011	0.003
00068212	<T 0.02	0.700	0.035	0.045	<T 0.015	0.626	0.010	0.003
00068213	0.15	1.280	0.060	0.195	0.110	0.370	0.117	0.005
00068214	0.15	0.640	0.050	0.030	0.065	0.356	0.030	0.004
00068215	UG 0.27	0.530	0.150	0.285	0.165	0.120	<T 0.003	0.015
00068216	0.21	0.330	0.030	0.030	0.085	0.264	<W 0.002	0.002
00068217	0.22	0.230	0.030	0.030	0.085	0.202	<T 0.003	0.003

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00094450	0.0003	1DT 0.013	0.052	1DT 0.002	< 0.0004	1DT 0.022	< 0.0004	92.90
00094452	0.0004	1DT 0.004	0.023	1DT 0.002	< 0.0004	0.010	< 0.0003	68.70
00094451	0.0008	1DT 0.023	UG 0.160	1DT 0.007	0.0005	UG 0.071	< 0.0009	132.00
00068208	<W 0.0010	<T 0.007	<T 0.020	1DT 0.011	<T 0.0004	<T 0.009	<T 0.0006	93.30
00068209	****	****	****	****	****	****	****	****
00068210	UG 0.0620	<T 0.011	0.026	1DT 0.053	<T 0.0004	0.018	UG 0.0055	38.40
00068211	<W 0.0010	<T 0.005	<T 0.024	1DT 0.015	<T 0.0004	<T 0.011	1DT 0.0003	57.50
00068212	<W 0.0010	<T 0.004	<T 0.024	1DT 0.030	<T 0.0004	<T 0.012	1DT 0.0004	69.40
00068213	<T 0.0003	0.008	1DT 0.011	|BL ****	<T 0.0000	0.009	1DT 0.0021	84.80
00068214	<T 0.0003	0.005	<T 0.011	|BL ****	<T 0.0001	0.030	<T 0.0007	84.00
00068215	<T 0.0004	0.008	<W 0.005	|BL ****	<T 0.0003	0.012	<T 0.0014	LG 24.30
00068216	<T 0.0006	0.005	<W 0.006	0.002	UG 0.0005	0.023	<T 0.0010	102.00
00068217	<T 0.0005	L 0.006	L 0.034	0.003	UG 0.0005	0.048	L 0.0009	75.00

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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                             APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                           DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

----------------------------------- REGION=SE STATION=DALHOUSIE MILLS MIC TYPE A SITE NO.1 -----------------------------------

 SAMPLE   SUBMISSION LIS    PROJECT SUB      SAMPLE     EXPOSURE    SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
 NUMBER   NUMBER     SAMPLE CODE    PROJECT  REMOVAL    DATE        END    START  TYPE  AT    AT    TYPE  DEPTH(MM)  %
                     TYPE           CODE     DATE                   HR     HR           EXP   REM.

00094440  AP02548    PR     02      01    JAN 26, 1988 DEC 29, 1987 0800   0800    2           2      2    27.0       58.18
00094441  AP02548    PR     02      01    FEB 23, 1988 JAN 26, 1988 0800   0800    2                  2    73.0       52.61
00094442  AP02548    PR     02      01    MAR 22, 1988 FEB 23, 1988 0800   0800    3                  2    16.0       72.57
00094455  AP02558    PR     02      01    APR 19, 1988 MAR 22, 1988 0800   0800    1                  2    45.0       57.77
00094540  AP02639    PR     02      01    MAY 17, 1988 APR 19, 1988 0800   0800    1                  3    47.0       93.58
00094568  AP02780    PR     02      01    JUN 14, 1988 MAY 17, 1988 1730   0800    1                  3    38.0          .
00094569  AP02780    PR     02      01    JUL 12, 1988 JUN 14, 1988 0800   1730    1                  3    10.5          .
00094570  AP02780    PR     02      01     AUG 9, 1988 JUL 12, 1988 0900   0800    1                  3    46.0      105.72
00094576  AP02780    PR     02      01     SEP 6, 1988  AUG 9, 1988 2000   0900    1                  3    79.0       96.69
00024709  AP02898    PR     02      01     OCT 4, 1988  SEP 6, 1988 0800   2000    1                  3    68.0          .
00024710  AP02898    PR     02      01     NOV 1, 1988  OCT 4, 1988 0800   0800    1                  3    83.0       63.42
00024714  AP02898    PR     02      01    NOV 27, 1988  NOV 1, 1988 0800   0800    1                  3    85.0      105.81
00094580  AP02961    PR     02      01    DEC 28, 1988 NOV 29, 1988 0800   0830    3                  3    38.3       42.63
 SAMPLE   FIELD    OFFICE   VOLUME          CONDUCT    LAB.PH         ACIDITY.TFE SULFATE     NITRATE     CALCIUM
 NUMBER   COMMENTS COMMENTS
                            ML              UMHO/CM                               MG/L        MG/L        MG/L

00094440                           510       D    46.00        4.10       ****      2.95          1.17         0.58
00094441                          1247            24.00        4.47       ****      2.00          0.60         0.46
00094442                           377            51.00   B    7.23       ****      5.90     UG   1.99    B    4.60
00094455    AC                     844            26.00   UG   6.62       ****      4.40          0.97    UG   1.42
00094540    F                     1428            30.50   B    6.83       ****      5.45     UG   1.10    B    1.44
00094568    JFE                   ****             ****        ****       ****      ****          ****         ****
00094569    EFJ                   ****             ****        ****       ****      ****          ****         ****
00094570                          1579            43.00        4.09       ****      5.70          0.69         0.36
00094576                          2480            43.00        4.02       ****      4.75          0.50         0.16
00024709    E           N            .             ****        ****       ****      ****          ****         ****
00024710                          1695            14.00        4.71       ****      1.70          0.32         0.42
00024714    QIF         Z         2838            12.00   UG   4.74       ****      1.20     LG   0.25         0.16
00094580    EI                     517            36.00        4.31       ****      2.55     UG   0.81    UG   0.54
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                         ONTARIO MINISTRY OF THE ENVIRONMENT
                   APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                   DATA LISTING
                        CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------ REGION=SE STATION=DALHOUSIE MILLS MIC TYPE A SITE NO.1 ------------------------------

SAMPLE     CHLORIDE        KJELDAHL        MAGNESIUM       POTASSIUM       SODIUM          AMMONIUM        PHOSPHOR        MANGANESE
NUMBER
           MG/L            MG/L            MG/L            MG/L            MG/L            MG/L            MG/L            MG/L

00094440            0.51           0.470           0.060           0.035           0.220           0.350   <T      0.004           0.009
00094441            0.43           0.270           0.050   <T      0.020           0.300           0.220   <T      0.002           0.004
00094442   B        2.52           1.150   UG      0.410           0.085   B       1.700           0.900           0.015           0.005
00094455            0.45   UG      1.850   UG      0.240   UG      0.165           0.320           1.080   UG      0.101   B       0.025
00094540   D        0.39   UG      1.950   B       0.210   UG      0.385   B       0.195   UG      1.660   UG      0.147   UG      0.009
00094568            ****            ****            ****            ****            ****            ****            ****            ****
00094569            ****            ****            ****            ****            ****            ****            ****            ****
00094570            0.10           0.900           0.055           0.075           0.035           0.760           0.012           0.004
00094576            0.13           0.560   <T      0.025           0.030           0.025           0.450           0.010           0.003
00024709            ****            ****            ****            ****            ****            ****            ****            ****
00024710            0.11           0.350           0.045           0.045           0.035           0.256           0.015           0.002
00024714            0.09   LG      0.170   <T      0.020           0.025           0.035           0.136   <T      0.002           0.001
00094580   UG       0.39           0.390   UG      0.075           0.045   UG      0.190           0.264   <T      0.008   UG      0.010
SAMPLE     NICKEL          ZINC            IRON            LEAD            VANADIUM        ALUMINUM        COPPER          ACIDITY GRAN
NUMBER
           MG/L            MG/L            MG/L            MG/L            MG/L            MG/L            MG/L            UG/L

00094440          0.0010   1DT     0.018           0.039   1DT     0.005   D      0.0009   1DT     0.033   1DT    0.0008   D      115.00
00094441          0.0004   1DT     0.009           0.025   1DT     0.001          0.0004   1DT     0.013   <      0.0004           58.90
00094442          0.0010   1DT     0.019   B       0.148   <       0.004          0.0005           0.058   <      0.0007   B       15.60
00094455   <W     0.0010   D       0.036   <T      0.066   <W      0.002   <T     0.0008   <T      0.024   1DT    0.0009   LG      19.80
00094540   <T     0.0020   D       0.022   1DT     0.127   1DT     0.020   <T     0.0004   <T      0.039   1DT    0.0015   LG      24.60
00094568            ****            ****            ****            ****            ****            ****            ****            ****
00094569            ****            ****            ****            ****            ****            ****            ****            ****
00094570   <W     0.0010   <T      0.009           0.031   <T      0.016   <T     0.0004   <T      0.008   1DT    0.0003          114.00
00094576   <W     0.0010   B       0.039           0.021   <T      0.021   <T     0.0004   <T      0.007   1DT    0.0003          128.00
00024709            ****            ****            ****            ****            ****            ****            ****            ****
00024710   <T     0.0002           0.007   1DT     0.005   |BL      ****   <T     0.0002           0.013          0.0012           43.30
00024714   <T     0.0001           0.003   <W      0.005   |BL      ****   <T     0.0002           0.014   1DT    0.0004   LG      39.10
00094580   <T     0.0009   UG      0.019   <T      0.057   1DT     0.002   UG     0.0006           0.049   <T     0.0018           75.90
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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=SE STATION=GOLDEN LAKE MIC TYPE A SITE NO.1 --------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

  00094445  AP02548    PR     02      01     JAN 25, 1988 DEC 29, 1987  0720   0700    3                  2      38.0      77.97
  00094447  AP02548    PR     02      01     FEB 23, 1988 JAN 25, 1988  0830   0720    3                  2      45.0      62.56
  00094453  AP02558    PR     02      01     MAR 23, 1988 FEB 23, 1988  0700   0835    1                  2      12.0      98.05
  00094456  AP02558    PR     02      01     APR 19, 1988 MAR 23, 1988  0700   0705    1                  2      64.0      86.91
  00094541  AP02639    PR     02      01     MAY 17, 1988 APR 19, 1988  0700   0700    1                  3      76.0      81.62
  00094571  AP02780    PR     02      01     JUN 14, 1988 MAY 17, 1988  0730   0705    1                  3      28.0      97.79
  00094573  AP02780    PR     02      01     JUL 12, 1988 JUN 14, 1988  0700   0735    1                  3      72.0      95.31
  00094574  AP02780    PR     02      01     AUG 15, 1988 JUL 12, 1988  1830   0700    1                  3     135.0      94.09
  00024711  AP02898    PR     02      01      SEP 6, 1988 AUG 15, 1988  0800   1835    1                  3      66.0      70.28
  00024712  AP02898    PR     02      01      OCT 4, 1988  SEP 6, 1988  0800   0800    1                  3      61.0      43.73
  00024713  AP02898    PR     02      01      NOV 1, 1988  OCT 4, 1988  0700   0800    1                  3      51.0      94.69
  00094578  AP02961    PR     02      01     NOV 28, 1988  NOV 1, 1988  0700   0705    1                  3      58.2      60.48
  00094579  AP02961    PR     02      01     DEC 28, 1988 NOV 28, 1988  0800   0705    3                  2       1.3     2283.9
   SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML            UMHO/CM                                   MG/L          MG/L          MG/L

  00094445                        962         29.50            4.24       ****          1.85          0.66     <T    0.08
  00094447                        914         25.50            4.33       ****          1.15          0.62           0.14
  00094453                        382         48.00            4.22       ****          3.55          1.39           0.74
  00094456                       1806         36.00            4.26       ****          3.10          0.71           0.38
  00094541                       2014         33.00            4.31       ****          3.50          0.71           0.36
  00094571                        889         30.00            4.20       ****          2.35          0.55           0.18
  00094573                       2228         20.00            4.51       ****          2.35          0.35           0.20
  00094574    Q        Z         4124         43.50            4.05       ****          5.20          0.47           0.16
  00024711             Z         1499         16.00            4.54       ****          1.45          0.22     <T    0.04
  00024712             N          843         19.00            4.55       ****          2.00          0.34           0.30
  00024713                       1561         25.00            4.34       ****          1.65          0.50           0.12
  00094578    P                  1132         26.00            4.29       ****          2.55          0.51           0.14
  00094579    P        Z          952         17.00     UG     4.59       ****          1.00          0.44           0.20
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------ REGION=SE STATION=GOLDEN LAKE MIC TYPE A SITE NO.1 ------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00094445	0.13	0.450	<T 0.015	<T 0.020	0.050	0.240	<T 0.005	0.002
00094447	0.18	0.230	<T 0.020	<T 0.010	0.095	0.100	<T 0.007	0.002
00094453	0.35	0.780	0.090	<T 0.020	0.150	0.710	<T 0.008	0.012
00094456	0.17	0.450	0.050	<T 0.010	0.055	0.410	<T 0.006	0.003
00094541	0.11	0.620	0.070	0.045	0.030	0.576	<T 0.005	0.005
00094571	<T 0.03	0.360	0.035	0.075	<T 0.025	0.236	0.015	0.003
00094573	0.12	0.600	0.030	0.050	<T 0.025	0.546	0.013	0.004
00094574	0.06	0.550	0.030	0.045	0.035	0.546	<T 0.007	<T 0.002
00024711	<T 0.05	0.210	<T 0.005	<T 0.015	<T 0.010	0.180	<W 0.002	0.001
00024712	0.09	0.340	0.040	<T 0.020	0.030	0.286	<W 0.002	0.003
00024713	0.08	0.230	<T 0.020	UG 0.115	0.035	0.170	<T 0.003	0.003
00094578	0.14	0.400	<T 0.015	0.025	0.055	0.246	<T 0.006	0.002
00094579	0.16	LG 0.150	0.030	0.025	0.065	LG 0.098	<T 0.004	0.003

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00094445	0.0002	1DT 0.003	0.013	0.005	< 0.0004	1DT 0.011	< 0.0004	81.80
00094447	0.0002	1DT 0.003	0.019	1DT 0.003	< 0.0004	1DT 0.011	< 0.0004	75.50
00094453	<W 0.0010	0.020	0.075	<T 0.014	<T 0.0004	0.034	<T 0.0008	98.80
00094456	<W 0.0010	<T 0.008	<T 0.014	1DT 0.003	<T 0.0005	<T 0.008	1DT 0.0002	90.10
00094541	<W 0.0010	<T 0.007	1DT 0.045	1DT 0.016	<T 0.0004	<T 0.015	<T 0.0010	88.20
00094571	<T 0.0053	1DT 0.004	<T 0.014	1DT 0.011	<T 0.0004	<T 0.011	1DT 0.0003	89.30
00094573	<W 0.0010	<T 0.005	<T 0.029	1DT 0.005	<T 0.0004	<T 0.008	1DT 0.0002	53.30
00094574	<W 0.0010	<T 0.003	<T 0.023	<T 0.013	<T 0.0004	<T 0.006	1DT 0.0001	119.00
00024711	<W 0.0001	0.003	<W 0.007	|BL ****	<T 0.0001	0.014	1DT 0.0004	55.80
00024712	<T 0.0002	0.008	<W 0.009	|BL ****	<T 0.0000	0.017	1DT 0.0005	53.60
00024713	<T 0.0002	0.004	<W 0.007	|BL ****	<T 0.0003	0.019	1DT 0.0005	72.40
00094578	<T 0.0005	0.004	<T 0.016	1DT 0.002	UG 0.0005	0.026	0.0021	75.40
00094579	<T 0.0009	0.004	<T 0.029	1DT 0.001	<T 0.0002	0.017	<T 0.0012	LG 42.60

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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=SE STATION=SMITHS FALLS MIC TYPE A SITE NO.1 ------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB           SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT       REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE          DATE                 HR     HR            EXP   REM.

  00094437  AP02548     PR     02      01    JAN 26, 1988 DEC 30, 1987   0940   1545    2                 2     30.0       23.82
  00094438  AP02548     PR     02      01    FEB 23, 1988 JAN 26, 1988   0945   0940    2                 2     79.0       47.33
  00094439  AP02548     PR     02      01    MAR 22, 1988 FEB 23, 1988   1145   0945    3                 2     11.0      117.32
  00066001  AP02639     PR     02      01    APR 19, 1988 MAR 22, 1988   1115   1147    1                 3     47.0       80.87
  00066002  AP02639     PR     02      01    MAY 17, 1988 APR 19, 1988   0948   1115    1                 3     46.0       84.77
  00094566  AP02780     PR     02      01    JUN 14, 1988 MAY 17, 1988   0958   0948    1                 3     36.0       74.95
  00094567  AP02780     PR     02      01    JUL 12, 1988 JUN 14, 1988   1134   0958    1                 3     53.0       94.55
  00094575  AP02780     PR     02      01     AUG 9, 1988 JUL 12, 1988   0922   1134    1                 3     38.0       87.05
  00024706  AP02898     PR     02      01     SEP 6, 1988  AUG 9, 1988   1057   0922    1                 3     93.0       18.88
  00024707  AP02898     PR     02      01     OCT 4, 1988  SEP 6, 1988   0956   1057    1                 3     85.0       90.91
  00024708  AP02898     PR     02      01     NOV 1, 1988  OCT 4, 1988   1100   0956    1                 3     70.0       87.87
  00024717  AP02940     PR     02      01    NOV 29, 1988  NOV 1, 1988   1023   1100    1                 3     88.0       80.57
  00069045  AP03018     PR     02      01    DEC 29, 1988 NOV 29, 1988   1245   1023    1                 2     30.0       80.08
   SAMPLE  FIELD    OFFICE   VOLUME         CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML             UMHO/CM                                   MG/L          MG/L          MG/L

  00094437             NH         232            33.50    B     7.12        ****      D     5.35          1.42    B      2.36
  00094438             N         1214            23.50          4.47        ****            1.90          0.66           0.68
  00094439                        419            47.50          4.26        ****            4.75          1.47    UG     1.44
  00066001                       1234            37.00          4.26        ****            3.50          0.83           0.46
  00066002                       1266            31.50          4.42        ****            3.60          0.66           0.42
  00094566    Q        HM         876       LG   10.00    UG    5.39        ****      LG    1.45    LG    0.19           0.38
  00094567                       1627       LG   13.00    UG    7.11        ****            1.80          0.25    UG     1.20
  00094575    Q                  1074            32.50          4.21        ****            3.95          0.42           0.32
  00024706                        ****              ****          ****      ****              ****           ****          ****
  00024707                       2075            29.00          4.31        ****            2.80          0.37           0.14
  00024708                        ****              ****          ****      ****              ****           ****          ****
  00024717                       2289            23.00          4.28        ****            1.70          0.48           0.12
  00069045    Q        Z          755            12.00    UG    4.81        ****            1.95          0.57    UG     0.56
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------ REGION=SE STATION=SMITHS FALLS MIC TYPE A SITE NO.1 ------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00094437	0.69	D 0.920	B 0.860	0.075	D 0.460	D 0.700	<T 0.005	B 0.026
00094438	0.39	0.320	D 0.170	0.040	0.275	0.150	<T 0.005	0.003
00094439	UG 0.77	UG 1.570	UG 0.360	0.145	0.415	0.500	0.011	0.010
00066001	0.22	0.590	0.110	0.030	0.110	0.362	<T 0.004	0.006
00066002	0.11	0.660	0.105	0.035	0.035	0.546	<T 0.006	UG 0.006
00094566	<W 0.01	0.570	0.090	0.045	<T 0.020	0.400	0.020	0.004
00094567	0.09	0.450	B 0.540	0.050	0.030	0.196	0.019	<T 0.001
00094575	<T 0.04	0.660	0.070	0.030	<T 0.020	0.526	0.011	0.003
00024706	****	****	****	****	****	****	****	****
00024707	0.10	0.360	<T 0.025	<T 0.020	<T 0.020	0.320	<W 0.002	0.001
00024708	****	****	****	****	****	****	****	****
00024717	0.14	0.270	0.025	<T 0.010	0.050	0.206	<T 0.002	0.001
00069045	0.22	0.340	UG 0.190	UG 0.060	0.100	0.224	0.015	0.005

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00094437	0.0006	1DT 0.015	B 0.093	< 0.005	0.0004	1DT 0.037	< 0.0011	B 16.90
00094438	0.0005	1DT 0.012	0.026	1DT 0.004	0.0004	1DT 0.012	< 0.0004	59.20
00094439	0.0010	1DT 0.024	0.080	1DT 0.004	D 0.0011	0.058	< 0.0007	95.20
00066001	<W 0.0010	<T 0.007	<T 0.048	1DT 0.008	<T 0.0008	<T 0.013	<T 0.0009	97.70
00066002	<W 0.0010	<T 0.009	1DT 0.023	1DT 0.009	<T 0.0004	<T 0.009	<T 0.0011	73.30
00094566	<W 0.0010	1DT 0.003	1DT 0.021	1DT 0.013	<T 0.0004	<T 0.011	1DT 0.0003	LG 25.20
00094567	<W 0.0010	1DT 0.002	<T 0.011	<T 0.009	<T 0.0004	<T 0.008	1DT 0.0002	LG 13.80
00094575	<W 0.0010	<T 0.005	<T 0.027	1DT 0.014	<T 0.0004	<T 0.010	<T 0.0007	88.40
00024706	****	****	****	****	****	****	****	****
00024707	<T 0.0003	1DT 0.004	<W 0.006	|BL ****	<T 0.0001	0.012	1DT 0.0006	77.50
00024708	****	****	****	****	****	****	****	****
00024717	<T 0.0002	0.004	1DT 0.005	|BL ****	UG 0.0004	0.007	<T 0.0008	78.20
00069045	<T 0.0006	UG 0.013	<T 0.061	0.003	<T 0.0003	0.037	<T 0.0018	LG 36.60

PART VII

SOUTHWESTERN REGION
CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

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                                     ONTARIO MINISTRY OF THE ENVIRONMENT
                                 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                 DATA LISTING
                                     CUMULATIVE SAMPLING ANALYSIS RESULTS

--------------------------------------- REGION=SW STATION=ALVINSTON MIC TYPE A SITE NO.1 ---------------------------------------

  SAMPLE   SUBMISSION LIS    PROJECT SUB           SAMPLE       EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
  NUMBER   NUMBER     SAMPLE CODE    PROJECT       REMOVAL      DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE          DATE                  HR     HR           EXP   REM.

 00074474  AP02461     PR     02      01     JAN 26, 1988 DEC 29, 1987  1230   1130   2                  2       19.8       90.53
 00074495  AP02483     PR     02      01     FEB 23, 1988 JAN 26, 1988  1100   1230   3                  2       66.6       95.59
 00074504  AP02533     PR     02      01     MAR 22, 1988 FEB 23, 1988  1230   1100   3                  2       21.1       75.32
 00074523  AP02579     PR     02      01     APR 19, 1988 MAR 22, 1988  1340   1230   3                  3       52.0       86.83
 00074533  AP02620     PR     02      01     MAY 17, 1988 APR 19, 1988  1100   1340   1                  3       44.0       85.61
 00074547  AP02631     PR     02      01     JUN 15, 1988 MAY 17, 1988  1030   1100   1                  3       18.0       69.47
 00074561  AP02679     PR     02      01     JUL 12, 1988 JUN 15, 1988  1030   1030   1                  3        4.0           .
 00074579  AP02721     PR     02      01      AUG 9, 1988 JUL 12, 1988  1100   1030   1                  3       78.0       12.36
 00074589  AP02788     PR     02      01      SEP 7, 1988  AUG 9, 1988  1100   1200   1                  1       73.0       99.24
 00074603  AP02834     PR     02      01      OCT 4, 1988  SEP 7, 1988  1300   1100   1                  1       45.0      116.42
 00074622  AP02886     PR     02      01      NOV 1, 1988  OCT 4, 1988  1130   1300   3                  3       95.0       65.94
 00074631  AP02917     PR     02      01     NOV 29, 1988  NOV 1, 1988  1200   1130   3                  3      117.0       58.60
 00074645  AP02961     PR     02      01     DEC 28, 1988 NOV 29, 1988  1300   1200   1                  3       44.3       75.64
  SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT        LAB.PH        ACIDITY.TFE  SULFATE       NITRATE       CALCIUM
  NUMBER  COMMENTS COMMENTS
                            ML            UMHO/CM                                   MG/L          MG/L          MG/L

 00074474           HM         582            28.00            4.29        ****             2.70          0.71          1.06
 00074495                     2067            32.00            4.26        ****             2.15          0.79          0.24
 00074504           H          516            41.00     UG     6.93        ****             6.35          1.77          2.94
 00074523  ABC                1466            33.00            4.88        ****             5.30          1.07          1.32
 00074533  ACQ      H         1223            28.00     UG     6.53        ****             5.75          0.91          1.56
 00074547  C                   406            37.00            4.64        ****             5.15          1.10          1.42
 00074561  EFK                  ****            ****            ****       ****              ****          ****          ****
 00074579  ABCQF               313      >    100.00     UG     7.71        ****      UG    19.60   UG     1.73   U      9.23
 00074589                     2352            48.00            3.98        ****             5.55          0.61          0.30
 00074603  B                  1701            21.50     B      7.14        ****             3.30          0.37   D      1.82
 00074622  AB       H         2381            12.50     UG     6.10        ****             2.85          0.52          1.36
 00074631           N         2261            24.50            4.25        ****             3.75          0.58          0.62
 00074645  G        H         1397            20.00            4.62        ****             3.25          0.39          0.62
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=SW STATION=ALVINSTON MIC TYPE A SITE NO.1 -------------------------------------

SAMPLE NUMBER	CHLORIDE	KJELDAHL	MAGNESIUM	POTASSIUM	SODIUM	AMMONIUM	PHOSPHOR	MANGANESE
	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
00074474	0.23	0.390	0.115	<T 0.015	0.080	0.290	<W 0.002	0.003
00074495	0.32	0.540	0.040	<T 0.010	0.090	0.400	<T 0.005	0.001
00074504	UG 1.25	UG 2.900	0.545	0.100	UG 0.800	1.020	0.020	0.015
00074523	0.47	1.350	0.265	UG 0.200	0.260	1.200	0.025	0.019
00074533	0.25	1.420	0.310	0.225	0.080	1.190	0.018	0.019
00074547	0.29	1.310	0.280	0.160	0.100	0.944	0.023	0.012
00074561	****	****	****	****	****	****	****	****
00074579	B 2.30	U 7.850	B 1.860	U 5.630	UG 0.520	2.370	U 0.785	<T 0.001
00074589	0.17	0.650	0.065	0.075	0.045	0.550	0.031	0.003
00074603	D 0.63	0.410	D 0.760	U 2.340	0.170	UCR 0.120	0.015	D 0.009
00074622	0.08	0.450	0.175	UG 0.260	0.030	0.330	UG 0.021	0.006
00074631	0.19	0.380	0.115	0.035	0.080	0.340	<T 0.004	0.003
00074645	0.54	1.290	0.115	UG 0.170	0.250	0.182	0.032	0.005

SAMPLE NUMBER	NICKEL	ZINC	IRON	LEAD	VANADIUM	ALUMINUM	COPPER	ACIDITY GRAN
	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
00074474	0.0003	1DT 0.019	0.029	1DT 0.016	< 0.0004	1DT 0.039	1DT 0.0019	89.30
00074495	< 0.0002	1DT 0.010	0.021	0.005	0.0008	1DT 0.016	1DT 0.0011	102.00
00074504	0.0006	1DT 0.024	0.119	1DT 0.003	0.0010	0.074	1DT 0.0005	LG 23.40
00074523	<W 0.0010	0.016	<T 0.103	<W 0.002	<T 0.0004	<T 0.042	1DT 0.0017	42.50
00074533	<W 0.0010	<T 0.012	<T 0.181	1DT 0.006	<T 0.0004	<T 0.067	<T 0.0025	LG 21.30
00074547	<W 0.0010	0.017	0.121	1DT 0.010	<T 0.0007	0.024	<T 0.0014	55.00
00074561	****	****	****	****	****	****	****	****
00074579	<T 0.0056	<T 0.031	B 0.459	1DT 0.093	<T 0.0005	<T 0.098	UG 0.0086	LG 14.90
00074589	<W 0.0010	<T 0.005	0.022	<T 0.017	<T 0.0004	<T 0.007	1DT 0.0002	130.00
00074603	<W 0.0010	0.022	<T 0.030	1DT 0.002	<T 0.0004	<T 0.008	<T 0.0005	45.00
00074622	<T 0.0003	0.004	<T 0.024	|BL ****	<T 0.0001	0.017	1DT 0.0004	LG 22.80
00074631	<T 0.0004	0.007	<T 0.017	|BL ****	UG 0.0005	0.027	<T 0.0010	85.60
00074645	<T 0.0011	0.017	<T 0.023	0.005	UG 0.0005	0.029	0.0043	51.90

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=SW STATION=COLCHESTER MIC TYPE A SITE NO.1 --------------------------------------

SAMPLE NUMBER	SUBMISSION NUMBER	LIS SAMPLE TYPE	PROJECT CODE	SUB PROJECT CODE	SAMPLE REMOVAL DATE	EXPOSURE DATE	SAMPLE END HR	SAMPLE START HR	PREC. TYPE	PREC. AT EXP	PREC. AT REM.	GAUGE TYPE	GAUGE DEPTH (MM)	EFFICIENCY %
00074470	AP02461	PR	02	01	JAN 26, 1988	DEC 29, 1987	0725	0740	3		1	2	27.0	67.04
00074491	AP02483	PR	02	01	FEB 23, 1988	JAN 26, 1988	0800	0725	2			2	61.2	49.92
00074500	AP02533	PR	02	01	MAR 22, 1988	FEB 23, 1988	0800	0800	3	1		2	14.8	52.86
00074519	AP02579	PR	02	01	APR 19, 1988	MAR 22, 1988	1250	1240	3			3	30.0	186.96
00074534	AP02620	PR	02	01	MAY 17, 1988	APR 19, 1988	0747	1250	1			3	14.0	103.84
00074552	AP02631	PR	02	01	JUN 14, 1988	MAY 17, 1988	0618	0747	1			3	21.0	66.59
00074569	AP02679	PR	02	01	JUL 12, 1988	JUN 14, 1988	0725	0618	1			3	16.0	96.63
00074576	AP02721	PR	02	01	AUG 9, 1988	JUL 12, 1988	0708	0741	1			3	79.0	99.11
00074585	AP02788	PR	02	01	SEP 6, 1988	AUG 9, 1988	0720	0708	1			1	88.0	84.98
00074599	AP02834	PR	02	01	OCT 4, 1988	SEP 6, 1988	1120	0725	1			1	53.0	97.98
00074618	AP02886	PR	02	01	NOV 1, 1988	OCT 4, 1988	0740	1120	3			3	68.0	89.82
00074627	AP02917	PR	02	01	NOV 29, 1988	NOV 1, 1988	0750	0750	1			3	98.0	90.86
00074641	AP02961	PR	02	01	DEC 27, 1988	NOV 29, 1988	0800	0800	3			3	19.8	122.11

SAMPLE NUMBER	FIELD COMMENTS	OFFICE COMMENTS	VOLUME ML	CONDUCT UMHO/CM	LAB.PH	ACIDITY.TFE	SULFATE MG/L	NITRATE MG/L	CALCIUM MG/L
00074470			587	22.50	4.38	****	1.95	0.46	0.26
00074491		N	992	35.00	4.21	****	2.70	0.73	0.22
00074500	A		254	37.00	4.40	****	3.70	0.93	0.94
00074519	A	N	1821	34.50	4.38	****	4.50	0.81	0.86
00074534	A		472	47.50	UG 6.63	****	D 9.50	UG 1.73	2.44
00074552	A		454	23.00	4.94	****	4.00	0.51	0.50
00074569			502	31.00	B 7.07	****	6.20	0.85	2.76
00074576			2542	51.50	4.06	****	5.85	0.69	0.68
00074585	A		2428	35.50	4.33	****	4.85	0.64	0.50
00074599	Q	HM	1686	16.00	4.77	****	3.00	0.35	0.52
00074618	AC		1981	18.00	4.51	****	2.75	0.50	0.60
00074627			2841	24.00	4.38	****	2.10	0.37	0.26
00074641			753	24.00	4.61	****	4.05	0.74	1.44

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------ REGION=SW STATION=COLCHESTER MIC TYPE A SITE NO.1 ------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00074470	0.27	0.220	0.060	<T 0.020	0.075	0.190	<W 0.002	0.002
00074491	0.44	0.480	0.045	<T 0.015	0.150	0.340	<T 0.004	0.002
00074500	0.90	0.910	0.220	0.040	0.300	0.690	<T 0.009	0.006
00074519	0.29	0.870	0.140	0.050	0.175	0.700	0.012	0.007
00074534	0.65	0.850	0.535	D 0.415	D 0.225	D 2.360	D 0.149	0.023
00074552	0.16	1.980	0.105	0.145	0.090	1.010	0.065	0.006
00074569	0.29	0.920	0.720	0.070	0.050	0.658	0.017	0.004
00074576	0.17	0.660	0.205	0.040	0.030	0.580	<T 0.004	0.003
00074585	0.18	0.780	0.110	0.070	0.040	0.750	0.031	0.005
00074599	0.15	0.550	0.140	UG 0.920	0.085	0.390	D 0.137	<T 0.002
00074618	0.08	0.500	0.095	0.040	<T 0.025	0.446	<T 0.004	0.004
00074627	0.18	0.300	0.040	<T 0.020	0.045	0.250	<T 0.002	0.002
00074641	0.84	0.440	0.225	0.040	0.310	0.308	<T 0.005	0.007

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00074470	< 0.0002	1DT 0.035	0.022	1DT 0.011	< 0.0004	1DT 0.020	1DT 0.0010	71.50
00074491	< 0.0002	1DT 0.021	0.026	0.010	0.0005	1DT 0.025	< 0.0004	108.00
00074500	0.0006	1DT 0.026	0.083	0.039	0.0007	0.056	< 0.0010	77.80
00074519	<W 0.0010	0.016	<T 0.039	1DT 0.005	<T 0.0004	<T 0.023	1DT 0.0005	75.20
00074534	<W 0.0010	0.040	0.185	1DT 0.007	<T 0.0004	<T 0.062	<T 0.0019	27.80
00074552	<W 0.0010	0.019	<T 0.058	1DT 0.016	<T 0.0008	<T 0.016	<T 0.0025	39.50
00074569	<W 0.0010	0.040	1DT 0.150	1DT 0.042	<T 0.0004	<T 0.045	<T 0.0023	LG 15.40
00074576	<W 0.0010	<T 0.007	0.036	<T 0.012	<W 0.0001	<T 0.007	1DT 0.0003	111.00
00074585	<W 0.0010	<T 0.007	0.029	<T 0.019	<T 0.0004	<T 0.007	1DT 0.0003	84.30
00074599	<W 0.0010	<T 0.006	<T 0.010	<W 0.002	<T 0.0004	<T 0.008	1DT 0.0003	48.60
00074618	<T 0.0002	1DT 0.007	<T 0.036	|BL ****	<T 0.0001	0.023	1DT 0.0004	59.50
00074627	<W 0.0001	0.006	1DT 0.008	|BL ****	<T 0.0003	0.018	<T 0.0007	70.60
00074641	<T 0.0008	0.018	<T 0.062	0.003	UG 0.0004	0.074	<T 0.0013	47.90

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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

----------------------------------------- REGION=SW STATION=MERLIN MIC TYPE A SITE NO.1 ------------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

  00074471  AP02461     PR     02      01    JAN 26, 1988 DEC 29, 1987  0700   0900    3     1           2     21.7       35.34
  00074492  AP02483     PR     02      01    FEB 23, 1988 JAN 26, 1988  0700   0700    3                 2     60.4       67.52
  00074501  AP02533     PR     02      01    MAR 22, 1988 FEB 23, 1988  0700   0700    3                 2     18.1       37.61
  00074520  AP02579     PR     02      01    APR 19, 1988 MAR 22, 1988  0700   0700    3                 2     20.7      216.64
  00074537  AP02620     PR     02      01    MAY 17, 1988 APR 19, 1988  0700   0700    1                 3     31.0      112.67
  00074548  AP02631     PR     02      01    JUN 14, 1988 MAY 17, 1988  0700   0700    1                 3     14.0       62.26
  00074560  AP02679     PR     02      01    JUL 12, 1988 JUN 14, 1988  0700   0700    1                 3     25.0       15.89
  00074581  AP02721     PR     02      01     AUG 9, 1988 JUL 12, 1988  0700   0700    1                 3     74.0       97.39
  00074586  AP02788     PR     02      01     SEP 6, 1988  AUG 9, 1988  0700   0700    1                 1     42.0       83.60
  00074600  AP02834     PR     02      01     OCT 4, 1988  SEP 6, 1988  0700   0700    1                 1     50.0       75.89
  00074619  AP02886     PR     02      01     NOV 1, 1988  OCT 4, 1988  0700   0700    3                 3     70.0       77.97
  00074628  AP02917     PR     02      01    NOV 29, 1988  NOV 1, 1988  0700   0700    3                 3     91.0       80.22
  00074642  AP02961     PR     02      01    DEC 27, 1988 NOV 29, 1988  0700   0700    3            1    3      5.0          .
   SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML            UMHO/CM                                 MG/L          MG/L          MG/L

  00074471    G        HM           249       19.00      UG    7.35        ****          1.55      LG     0.15       0.98
  00074492                         1324       33.00            4.26        ****          2.50             0.73       0.28
  00074501    G                     221       43.00            4.40        ****          4.60             1.25       1.38
  00074520             NH          1456       27.00            4.69        ****          4.10             0.69       1.10
  00074537    AC                   1134       36.50            4.54        ****          6.25             1.09       1.22
  00074548                          283       32.50            4.93        ****          5.90             0.86       1.44
  00074560    C        N            129       91.00            3.83        ****         10.20             1.27       1.50
  00074581             C           2340       28.00            4.16        ****          4.15             0.53       0.42
  00074586    A                    1140       48.00            4.03        ****          5.70             0.70       0.46
  00074600                         1232       20.50            4.34        ****          2.45             0.34       0.22
  00074619                         1772       22.50            4.40        ****          3.20             0.60       0.54
  00074628                         1539       27.00            4.32        ****          2.55             0.38       0.22
  00074642    E               !NR     ****        ****            ****      ****            ****            ****       ****
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

-- REGION=SW STATION=MERLIN MIC TYPE A SITE NO.1 --

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00074471	B 3.65	0.990	0.205	B 0.265	B 2.030	0.130	0.012	0.005
00074492	0.43	0.470	0.050	0.025	0.170	0.350	<T 0.005	0.002
00074501	1.08	1.020	0.235	0.040	0.595	0.710	<T 0.006	0.011
00074520	0.23	0.870	0.195	0.055	0.135	0.740	0.010	0.006
00074537	0.28	1.440	0.210	0.090	0.090	1.240	0.017	0.014
00074548	0.27	1.580	0.265	0.145	0.100	1.120	0.019	0.014
00074560	0.44	0.920	0.245	0.185	0.205	0.556	0.019	****
00074581	0.11	0.540	0.075	0.060	0.045	0.556	0.023	<T 0.001
00074586	0.16	0.750	0.075	0.055	0.030	0.636	0.019	0.005
00074600	0.09	UCR 0.280	0.040	<W 0.005	0.050	0.295	<W 0.002	<T 0.001
00074619	<W 0.01	0.650	0.100	0.040	0.025	0.546	<T 0.004	0.005
00074628	0.17	0.360	0.035	0.050	0.055	0.270	<T 0.009	0.002
00074642	****	****	****	****	****	****	****	****

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00074471	0.0022	1DT 0.085	0.081	1DT 0.017	< 0.0004	1DT 0.018	B 0.0090	LG 16.90
00074492	< 0.0002	1DT 0.013	0.028	0.004	0.0005	1DT 0.022	< 0.0004	103.00
00074501	0.0012	1DT 0.034	0.112	1DT 0.032	0.0008	0.078	1DT 0.0013	84.30
00074520	<W 0.0010	<T 0.010	<T 0.037	<W 0.002	<T 0.0004	<T 0.019	1DT 0.0005	47.40
00074537	<W 0.0010	0.018	<T 0.112	1DT 0.035	<T 0.0004	0.069	1DT 0.0012	61.70
00074548	<W 0.0010	0.027	0.122	1DT 0.025	<T 0.0004	0.038	<T 0.0010	39.80
00074560	****	****	****	****	****	****	****	197.00
00074581	<W 0.0010	<T 0.006	0.025	1DT 0.009	<T 0.0004	<T 0.007	1DT 0.0002	97.60
00074586	<W 0.0010	<T 0.016	0.032	1DT 0.001	<T 0.0004	<T 0.009	<T 0.0011	130.00
00074600	<W 0.0010	1DT 0.001	<T 0.012	<W 0.002	<T 0.0004	<T 0.009	0.0060	70.00
00074619	<T 0.0002	1DT 0.007	<T 0.039	|BL ****	<T 0.0001	0.023	UG 0.0036	68.40
00074628	<T 0.0001	0.006	1DT 0.006	|BL ****	<T 0.0003	0.020	<T 0.0010	78.40
00074642	****	****	****	****	****	****	****	****

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                                                ONTARIO MINISTRY OF THE ENVIRONMENT
                                           APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                            DATA LISTING
                                                CUMULATIVE SAMPLING ANALYSIS RESULTS

--------------------------------------- REGION=SW STATION=PALMERSTON MIC TYPE A SITE NO.1 ---------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB          SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT      REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE         DATE                 HR     HR           EXP   REM.

  00074475  AP02461     PR     02      01    JAN 26, 1988 DEC 29, 1987  0915   1300    2                 2      20.7      88.09
  00074499  AP02483     PR     02      01    FEB 24, 1988 JAN 26, 1988  1215   0915    3                 2      53.6      60.97
  00074505  AP02533     PR     02      01    MAR 22, 1988 FEB 24, 1988  1300   1215    3                 2      27.8      49.41
  00074524  AP02579     PR     02      01    APR 19, 1988 MAR 22, 1988  1300   1300    3                 2      43.0      34.60
  00074538  AP02620     PR     02      01    MAY 17, 1988 APR 19, 1988  1110   1300    1                 3      55.0      91.11
  00074554  AP02631     PR     02      01    JUN 14, 1988 MAY 17, 1988  1300   1110    1                 3      35.0      45.85
  00074567  AP02679     PR     02      01    JUL 12, 1988 JUN 14, 1988  1300   1300    1                 3      20.0      49.59
  00074583  AP02721     PR     02      01     AUG 9, 1988 JUL 12, 1988  1300   1300    1                 3      70.0      95.92
  00074590  AP02788     PR     02      01     SEP 6, 1988  AUG 9, 1988  1300   1300    1           1     1      43.0      78.36
  00074604  AP02834     PR     02      01     OCT 4, 1988  SEP 6, 1988  1130   1300    1           1     1     112.0      61.60
  00074623  AP02886            02      01     NOV 1, 1988  OCT 4, 1988  1300   1130    3                 3     108.0        .
  00074632  AP02917     PR     02      01    NOV 29, 1988  NOV 1, 1988  1330   1300    3           1     3      90.0       3.39
  00074646  AP02961     PR     02      01    DEC 29, 1988 NOV 29, 1988  0945   1330    1                 3      59.9       7.71
   SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML            UMHO/CM                                   MG/L          MG/L          MG/L

  00074475                       592            20.00    UG    7.20        ****            3.80       0.68             2.04
  00074499                      1061            24.50          4.53        ****            2.60       0.66             0.46
  00074505             N         446            40.50    UG    7.35        ****            5.55       1.37             2.98
  00074524   F                   483       D    58.50    UG    7.32        ****      UG    8.55       1.78       D     3.26
  00074538   F                  1627            23.50    UG    6.21        ****            4.20       0.78             0.98
  00074554             N         521            23.50    UG    7.33        ****            3.35       0.48             0.70
  00074567             N         322            53.00          4.60        ****            9.75       1.37             2.36
  00074583             X        2180               ****          ****      ****              ****       ****             ****
  00074590                      1094            40.00          4.08        ****            4.80       0.66             0.28
  00074604             HM       2240            23.00          4.33        ****            3.15       0.39             0.40
  00074623   FEI                  ****             ****          ****      ****              ****       ****             ****
  00074632             N         110            25.00          4.34        ****      UG    5.25       0.63             0.82
  00074646   F         Z          ****             ****          ****      ****              ****       ****             ****
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                         ONTARIO MINISTRY OF THE ENVIRONMENT
                    APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                    DATA LISTING
                         CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=SW STATION=PALMERSTON MIC TYPE A SITE NO.1 --------------------------------------

SAMPLE    CHLORIDE        KJELDAHL        MAGNESIUM       POTASSIUM       SODIUM          AMMONIUM        PHOSPHOR        MANGANESE
NUMBER
          MG/L            MG/L            MG/L            MG/L            MG/L            MG/L            MG/L            MG/L

00074475            0.44           0.780           0.620           0.040           0.245           0.190           0.090  UG       0.032
00074499            0.39           0.620           0.120  <T       0.015           0.190           0.450           0.016           0.003
00074505  UG        1.11           1.670           0.845           0.105           0.710           0.830  D        0.052           0.013
00074524  D         0.82  UG       2.550  D        0.925  UG       0.245  D        0.545  UG       2.000           0.039           0.007
00074538            0.19           1.460           0.195           0.085           0.085           1.190           0.026           0.012
00074554            0.12           2.080           0.285           0.105           0.030           1.640           0.030           0.003
00074567            0.45           1.970           0.470           0.200           0.200           1.570           0.018           0.021
00074583              ****            ****            ****            ****            ****            ****            ****            ****
00074590            0.09           0.790           0.070           0.030  <T       0.020           0.710           0.018  <T       0.002
00074604            0.05           0.550           0.040           0.110  <T       0.025           0.515  <T       0.005  <T       0.001
00074623              ****            ****            ****            ****            ****            ****            ****            ****
00074632            0.32           0.840           0.150           0.080           0.175  UG       0.780  <T       0.003           0.007
00074646              ****            ****            ****            ****            ****            ****            ****            ****
SAMPLE    NICKEL          ZINC            IRON            LEAD            VANADIUM        ALUMINUM        COPPER          ACIDITY GRAN
NUMBER
          MG/L            MG/L            MG/L            MG/L            MG/L            MG/L            MG/L            UG/L

00074475          0.0009           0.027  UG       0.927  1DT      0.017          0.0007  UG       0.769          0.0012  LG       17.40
00074499  <       0.0002  1DT      0.022           0.058           0.006          0.0006  1DT      0.024  1DT     0.0006           70.30
00074505          0.0018           0.043  UG       0.264  1DT      0.012          0.0009           0.149  1DT     0.0021  LG       21.50
00074524  <W      0.0010           0.054  1DT      0.139  <W       0.003  <T      0.0004  D        0.078  B       0.0098  LG       19.40
00074538  <W      0.0010           0.017  <T       0.071  1DT      0.004  <T      0.0004  <T       0.030  1DT     0.0012  LG       22.30
00074554  <W      0.0010  1DT      0.002  <T       0.044           0.025  <       0.0004  <T       0.015  1DT     0.0005  LG       16.20
00074567  <W      0.0010  <T       0.016  UG       0.259  1DT      0.047  <T      0.0004           0.083          0.0048           62.30
00074583              ****            ****            ****            ****            ****            ****            ****            ****
00074590  <W      0.0010  <T       0.005  <T       0.029  <T       0.025  <T      0.0004  <T       0.010  1DT     0.0004          111.00
00074604  <W      0.0010  1DT      0.001  <T       0.014  1DT      0.006  <T      0.0004  <T       0.007  <T      0.0007           72.00
00074623              ****            ****            ****            ****            ****            ****            ****            ****
00074632  UG      0.0018           0.043  1DT      0.054  |BL         ****  UG      0.0007           0.124  UG      0.0166           85.70
00074646              ****            ****            ****            ****            ****            ****            ****            ****
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=SW STATION=PORT STANLEY MIC TYPE A SITE NO.1 -------------------------------------

SAMPLE NUMBER	SUBMISSION NUMBER	LIS SAMPLE TYPE	PROJECT CODE	SUB PROJECT CODE	SAMPLE REMOVAL DATE	EXPOSURE DATE	SAMPLE END HR	SAMPLE START HR	PREC. TYPE	PREC. AT EXP	PREC. AT REM.	GAUGE TYPE	GAUGE DEPTH (MM)	EFFICIENCY %
00074472	AP02461	PR	02	01	JAN 26, 1988	DEC 29, 1987	1100	0930	3			2	22.9	75.99
00074493	AP02483	PR	02	01	FEB 23, 1988	JAN 26, 1988	0940	1100	3			2	53.5	70.81
00074502	AP02533	PR	02	01	MAR 22, 1988	FEB 23, 1988	0900	0940	3	1		2	20.7	63.09
00074521	AP02579	PR	02	01	APR 19, 1988	MAR 22, 1988	1530	0900	3			3	52.0	88.91
00074539	AP02620	PR	02	01	MAY 17, 1988	APR 19, 1988	0900	1530	1			3	40.0	93.17
00074545	AP02631	PR	02	01	JUN 14, 1988	MAY 17, 1988	1030	0900	1			3	25.0	66.16
00074562	AP02679	PR	02	01	JUL 12, 1988	JUN 14, 1988	0930	1030	1			3	3.0	65.71
00074580	AP02721	PR	02	01	AUG 9, 1988	JUL 12, 1988	0900	0930	1			3	90.0	46.34
00074587	AP02788	PR	02	01	SEP 6, 1988	AUG 9, 1988	1330	0900	1			1	54.0	80.42
00074601	AP02834	PR	02	01	OCT 4, 1988	SEP 6, 1988	1000	1330	1			1	46.0	75.46
00074620	AP02886	PR	02	01	NOV 1, 1988	OCT 4, 1988	0945	1000	3			3	85.0	90.81
00074629	AP02917	PR	02	01	NOV 29, 1988	NOV 1, 1988	0930	0945	3	1		3	108.0	49.65
00074643	AP02961	PR	02	01	DEC 28, 1988	NOV 29, 1988	0930	0930	1		1	3	66.8	62.06

SAMPLE NUMBER	FIELD COMMENTS	OFFICE COMMENTS	VOLUME ML		CONDUCT UMHO/CM		LAB.PH	ACIDITY.TFE		SULFATE MG/L		NITRATE MG/L		CALCIUM MG/L
00074472		C	565	UG	89.50	U	8.03	****		6.00		1.69	U	14.10
00074493			1230		22.50		6.88	****		3.60		1.05		2.16
00074502		C	424		44.50		7.31	****		5.30		1.16		4.36
00074521			1501		34.50		4.51	****		5.35		0.93		1.32
00074539			1210		33.50	UG	4.86	****		6.65		1.05		1.74
00074545			537		39.00		4.34	****		5.35		0.86		1.02
00074562			64	>	100.00		4.43	****	U	30.60	U	4.15	U	9.20
00074580	F		1354		26.50		4.21	****		3.30		0.47		0.42
00074587			1410		36.50		4.29	****		6.15		0.78		1.34
00074601		HCM	1127		32.00		4.30	****		6.25		0.90		1.48
00074620	FMI	H	2499	UG	19.00		4.81	****		3.45		0.66		0.58
00074629	F		1748		23.00		4.23	****		3.35		0.50		0.34
00074643	Q		1304		18.00		6.96	****		3.30		0.58		1.81

ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------- REGION=SW STATION=PORT STANLEY MIC TYPE A SITE NO.1 -------------------------------------

SAMPLE NUMBER	CHLORIDE MG/L	KJELDAHL MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM MG/L	PHOSPHOR MG/L	MANGANESE MG/L
00074472	UG 1.11	0.300	0.510	0.060	0.495	0.100	0.021	U 0.430
00074493	0.59	0.620	0.390	0.030	0.335	0.430	0.020	0.017
00074502	0.57	0.770	0.635	0.045	0.305	0.530	0.020	0.002
00074521	0.31	1.150	0.220	0.080	0.165	0.960	0.028	0.013
00074539	0.27	1.260	0.315	0.110	0.100	1.160	0.021	0.019
00074545	0.22	0.930	0.200	0.110	0.090	0.734	0.012	0.010
00074562	UG 1.68	!IS ****	UG 1.890	UG 0.540	UG 0.795	!IS ****	!IS ****	****
00074580	0.12	0.430	0.065	0.025	0.050	0.336	<T 0.004	0.008
00074587	0.13	0.730	0.270	0.065	0.030	0.666	0.023	0.009
00074601	0.36	1.260	0.305	0.115	0.165	1.100	0.075	0.010
00074620	0.07	1.140	0.140	0.410	0.085	0.876	0.102	0.006
00074629	0.18	0.290	0.065	0.030	0.060	0.266	<T 0.004	0.003
00074643	0.46	0.200	0.490	0.030	0.215	0.076	0.017	0.010

SAMPLE NUMBER	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L	COPPER MG/L	ACIDITY GRAN UG/L
00074472	0.0061	0.016	U 1.432	1DT 0.016	0.0011	UG 0.962	0.0033	<W 1.00
00074493	0.0002	1DT 0.009	0.058	1DT 0.005	0.0008	0.034	< 0.0004	22.30
00074502	0.0014	1DT 0.015	UG 0.244	1DT 0.019	0.0007	0.106	< 0.0007	18.50
00074521	<W 0.0010	0.015	0.047	<W 0.002	<T 0.0004	0.028	1DT 0.0005	63.80
00074539	<T 0.0011	0.023	<T 0.163	1DT 0.002	<T 0.0004	0.065	<T 0.0022	44.60
00074545	<W 0.0010	0.030	0.158	1DT 0.008	<T 0.0004	0.054	<T 0.0011	79.70
00074562	****	****	****	****	****	****	****	117.00
00074580	<W 0.0010	<T 0.004	<T 0.028	1DT 0.027	< 0.0004	<T 0.009	1DT 0.0002	78.50
00074587	<W 0.0010	<T 0.008	0.048	0.036	<T 0.0004	<T 0.009	1DT 0.0002	81.70
00074601	<W 0.0010	0.013	0.045	<W 0.002	<T 0.0004	<T 0.009	<T 0.0012	91.40
00074620	<T 0.0002	0.007	<T 0.036	|BL ****	<T 0.0001	0.026	<T 0.0006	42.40
00074629	<T 0.0002	0.007	<T 0.018	|BL ****	<T 0.0003	0.027	<T 0.0010	82.80
00074643	<T 0.0007	0.005	<T 0.083	1DT 0.001	UG 0.0005	0.062	<T 0.0008	19.50

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                                 ONTARIO MINISTRY OF THE ENVIRONMENT
                             APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                            DATA LISTING
                                 CUMULATIVE SAMPLING ANALYSIS RESULTS

-------------------------------------- REGION=SW STATION=SHALLOW LAKE MIC TYPE A SITE NO.1 -------------------------------------

 SAMPLE   SUBMISSION LIS    PROJECT SUB          SAMPLE       EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
 NUMBER   NUMBER     SAMPLE CODE    PROJECT      REMOVAL      DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                     TYPE           CODE         DATE                  HR     HR           EXP   REM.

00040980  AP02468    PR     02      01    JAN 26, 1988 DEC 29, 1987  0905   1100    3                 0    72.0     74.60
00084077  AP02475    PR     02      01    FEB 23, 1988 JAN 26, 1988  0950   0950    3                 2    49.0    121.00
00084240  AP02507    PR     02      01    MAR 22, 1988 FEB 23, 1988  1100   0950    2                 2    39.5     67.92
00084307  AP02551    PR     02      01    APR 19, 1988 MAR 22, 1988  1130   1100    1                 2    73.0     82.82
00084409  AP02601    PR     02      01    MAY 17, 1988 APR 19, 1988  0950   1130    1                 0   107.5     15.10
00084474  AP02646    PR     02      01    JUN 14, 1988 MAY 17, 1988  1250   0950    1                 3    21.5     42.26
00084529  AP02679    PR     02      01    JUL 12, 1988 JUN 14, 1988  1335   1250    1                 0    35.0     56.85
00084552  AP02700    PR     02      01     AUG 9, 1988 JUL 12, 1988  1220   1335    1                 3    97.6     41.17
00084647  AP02761    PR     02      01     SEP 6, 1988  AUG 9, 1988  1520   1220    1                 0   140.0    100.43
00084821  AP02819    PR     02      01     OCT 4, 1988  SEP 6, 1988  1355   1525    1           1     3   132.0     94.13
00084906  AP02854    PR     02      01     NOV 1, 1988  OCT 4, 1988  1400   1400    3     1     1     *   131.0     86.97
00042008  AP02897    PR     02      01    NOV 29, 1988  NOV 1, 1988  1630   1400    3                 2    82.0     98.52
00042135  AP02940    PR     02      01    DEC 27, 1988 NOV 29, 1988  1405   1635    2                 2    90.9     67.06
 SAMPLE   FIELD     OFFICE  VOLUME      CONDUCT       LAB.PH      ACIDITY.TFE  SULFATE      NITRATE      CALCIUM
 NUMBER   COMMENTS  COMMENTS
                            ML          UMHO/CM                                MG/L         MG/L         MG/L

00040980                   1744        20.00       4.50     ****        2.00      0.67       0.52
00084077  F                1925        30.00       4.31     ****        2.55      0.86       0.68
00084240  G         HCM     871  LG   12.00       4.38     ****    LG  0.95      0.27       0.23
00084307  ACD              1963        31.00       4.58     ****        3.90      0.81       0.82
00084409  FACD              527        56.50       4.03     ****        5.45      1.19       0.78
00084474  ABDFJ     HM      295        44.00  UG   7.30     ****        6.30      0.72       2.94
00084529  CAF               646        52.50       4.62     ****        9.30      1.60       2.68
00084552  ACDJ      H      1305        29.00  UG   5.66     ****        5.35      0.88       0.54
00084647                   4565        20.00       4.40     ****    D   2.35      0.31       0.12
00084821                   4034        20.00       4.33     ****        2.50      0.36       0.12
00084906                   3699        18.00       4.49     ****    LG  1.70      0.43       0.18
00042008  Q         HM     2609        24.50       4.17     ****        2.25      0.48       0.16
00042135                   1968        21.00       4.42     ****        1.95      0.46       0.22
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ONTARIO MINISTRY OF THE ENVIRONMENT
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
DATA LISTING
CUMULATIVE SAMPLING ANALYSIS RESULTS

------------------------------------ REGION=SW STATION=SHALLOW LAKE MIC TYPE A SITE NO.1 ------------------------------------

SAMPLE NUMBER	CHLORIDE	KJELDAHL	MAGNESIUM	POTASSIUM	SODIUM	AMMONIUM	PHOSPHOR	MANGANESE
	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
00040980	0.23	0.470	0.120	<T 0.015	0.120	0.340	0.003	0.003
00084077	0.34	0.490	0.070	<T 0.025	0.210	0.360	<T 0.006	0.001
00084240	0.15	0.330	0.040	<T 0.010	0.040	0.100	0.013	0.002
00084307	0.24	1.040	0.135	0.060	0.150	0.840	0.023	0.006
00084409	0.26	0.740	0.120	0.035	0.100	0.625	<T 0.004	0.008
00084474	0.27	U 5.450	0.695	B 0.785	0.110	1.670	U 0.515	0.003
00084529	0.49	2.500	0.655	0.250	0.175	1.380	D 0.074	0.023
00084552	0.21	2.200	0.185	0.360	0.095	1.700	0.165	0.007
00084647	0.07	D 0.270	0.025	<T 0.025	<T 0.010	D 0.220	<W 0.002	<T 0.001
00084821	0.08	0.280	0.030	<T 0.015	<T 0.025	0.246	<W 0.002	<T 0.001
00084906	0.06	0.260	0.025	<T 0.010	<T 0.010	0.256	<W 0.002	<T 0.001
00042008	<W 0.01	0.290	<T 0.020	<T 0.015	0.045	0.246	<T 0.003	0.001
00042135	0.33	0.290	0.035	<T 0.020	0.065	0.226	<T 0.003	0.002

SAMPLE NUMBER	NICKEL	ZINC	IRON	LEAD	VANADIUM	ALUMINUM	COPPER	ACIDITY GRAN
	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
00040980	< 0.0002	1DT 0.004	0.021	0.005	0.0008	0.014	1DT 0.0010	64.60
00084077	0.0006	1DT 0.009	0.018	0.007	0.0006	0.019	0.0017	83.60
00084240	0.0002	0.005	1DT 0.006	0.016	< 0.0004	< 0.011	1DT 0.0037	69.20
00084307	0.0013	1DT 0.009	0.037	D 0.017	< 0.0004	0.015	< 0.0003	60.30
00084409	<W 0.0010	0.021	0.039	<T 0.013	<T 0.0004	0.154	<T 0.0019	D 157.00
00084474	<W 0.0010	<T 0.035	0.239	1DT 0.055	<T 0.0004	<T 0.059	<T 0.0067	LG 24.50
00084529	<W 0.0010	0.035	<T 0.135	1DT 0.021	<T 0.0004	0.038	<T 0.0033	72.50
00084552	<W 0.0010	<T 0.007	<T 0.055	1DT 0.011	<T 0.0004	<T 0.019	1DT 0.0010	30.20
00084647	<W 0.0010	<T 0.003	<T 0.004	1DT 0.007	<W 0.0001	<T 0.006	1DT 0.0001	65.10
00084821	<W 0.0010	1DT 0.001	1DT 0.006	<W 0.001	<T 0.0004	<T 0.006	1DT 0.0002	75.70
00084906	<W 0.0010	<T 0.004	1DT 0.010	1DT 0.002	<T 0.0004	<T 0.006	1DT 0.0002	57.90
00042008	<T 0.0001	0.003	<T 0.008	|BL ****	<T 0.0003	0.008	<T 0.0005	100.00
00042135	<T 0.0001	0.005	1DT 0.009	|BL ****	<T 0.0003	0.015	<T 0.0010	63.30

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                                         ONTARIO MINISTRY OF THE ENVIRONMENT
                                    APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                     DATA LISTING
                                         CUMULATIVE SAMPLING ANALYSIS RESULTS

----------------------------------------- REGION=SW STATION=WATERLOO MIC TYPE A SITE NO.1 ----------------------------------------

 SAMPLE   SUBMISSION LIS     PROJECT SUB           SAMPLE          EXPOSURE SAMPLE SAMPLE PREC.  PREC.  PREC.  GAUGE GAUGE        EFFICIENCY
 NUMBER   NUMBER     SAMPLE CODE    PROJECT        REMOVAL         DATE     END    START  TYPE   AT     AT     TYPE  DEPTH(MM) %
                     TYPE           CODE           DATE                     HR     HR             EXP    REM.

00074478  AP02461     PR      02      01     JAN 26, 1988 DEC 29, 1987  1430    0830    2                     2      26.0      111.71
00074498  AP02483     PR      02      01     FEB 23, 1988 JAN 26, 1988  1100    1430    3                     2      98.1       65.81
00074508  AP02533     PR      02      01     MAR 22, 1988 FEB 23, 1988  0930    1100    3                     2      23.2       73.15
00074527  AP02579     PR      02      01     APR 19, 1988 MAR 22, 1988  1300    0930    3                     3      55.0       99.68
00074540  AP02620     PR      02      01     MAY 17, 1988 APR 19, 1988  1326    1300    1                     3      65.5       59.84
00074542  AP02631     PR      02      01     JUN 14, 1988 MAY 17, 1988  1209    1326    1                     3      18.0       49.96
00074556  AP02679     PR      02      01     JUL 12, 1988 JUN 14, 1988  0850    1215    1                     3      15.0      124.23
00074575  AP02721     PR      02      01      AUG 9, 1988 JUL 12, 1988  1300    0850    1                     3     139.0       73.28
00074593  AP02788     PR      02      01      SEP 6, 1988  AUG 9, 1988  1300    1330    1                     1     128.0       90.31
00074607  AP02834     PR      02      01      OCT 4, 1988  SEP 6, 1988  1100    1300    1                     1      43.0      103.07
00074626  AP02886     PR      02      01      NOV 1, 1988  OCT 4, 1988  1100    1100    3                     3      92.0       80.35
00074635  AP02917     PR      02      01     NOV 29, 1988  NOV 1, 1988  1100    1100    3                     3      88.0      108.67
00074649  AP02961     PR      02      01     DEC 27, 1988 NOV 29, 1988  1230    1100    3               1     3      37.5      106.36
 SAMPLE  FIELD    OFFICE   VOLUME         CONDUCT        LAB.PH        ACIDITY.TFE  SULFATE        NITRATE        CALCIUM
 NUMBER  COMMENTS COMMENTS
                           ML             UMHO/CM                                   MG/L           MG/L           MG/L

00074478             H          943           14.00         6.05        ****          2.30           0.61           1.24
00074498                       2096           27.00         4.37        ****          2.20           0.66           0.34
00074508                        551           24.00         4.79        ****          3.15           0.88           0.92
00074527             H         1780           27.00         4.70        ****          4.10           0.80           1.00
00074540    FP       H         1272           22.50    UG   5.01        ****          4.30           0.64           0.72
00074542    FA                  292           58.00         4.10        ****          6.65           1.08           0.62
00074556             N          605           39.50         4.51        ****          5.65           0.79           1.32
00074575                       3307           36.50         4.19        ****          3.75           0.48           0.34
00074593                       3753           34.00         4.13        ****          4.10           0.48           0.24
00074607                       1439           28.00         4.29        ****          3.90           0.51           0.48
00074626    Q        H         2388     UG    19.00         4.47        ****          2.65           0.48           0.32
00074635                       2626           26.00         4.35        ****          2.30           0.30           0.12
00074649                       1214           20.50         4.64        ****          3.15           0.67           0.80
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                                   ONTARIO MINISTRY OF THE ENVIRONMENT
                                APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                              DATA LISTING
                                   CUMULATIVE SAMPLING ANALYSIS RESULTS

---------------------------------------- REGION=SW STATION=WATERLOO MIC TYPE A SITE NO.1 ---------------------------------------

 SAMPLE   CHLORIDE       KJELDAHL       MAGNESIUM      POTASSIUM      SODIUM         AMMONIUM       PHOSPHOR       MANGANESE
 NUMBER
          MG/L           MG/L           MG/L           MG/L           MG/L           MG/L           MG/L           MG/L

00074478          0.45          0.570          0.255          0.075          0.245          0.290          0.024          0.015
00074498          0.31          0.450          0.055    <T    0.010          0.115          0.350    <T    0.006          0.001
00074508          0.44          1.190          0.165          0.080          0.190          0.800          0.034          0.005
00074527          0.24          1.070          0.195          0.055          0.130          0.880          0.016          0.013
00074540          0.15          1.100          0.150          0.050          0.045          0.934          0.018          0.012
00074542          0.28          1.500          0.140          0.090          0.080          1.260          0.014          0.005
00074556          0.21          1.110          0.265          0.090          0.070          0.870          0.015          0.010
00074575          0.09          0.580          0.055          0.030          0.035          0.496    <T    0.006    <T    0.002
00074593          0.20          0.490          0.045    <T    0.020    <T    0.015          0.476          0.017    <T    0.001
00074607          0.21          0.550          0.105    <T    0.020          0.095          0.550    <W    0.002    <T    0.002
00074626   <W     0.01          0.640          0.065          0.055          0.030          0.590          0.016          0.003
00074635          0.17          0.260          0.030    <T    0.020          0.060          0.240    <W    0.002          0.002
00074649          0.39          0.590          0.140          0.055          0.160          0.454    <T    0.009          0.008
 SAMPLE   NICKEL         ZINC           IRON           LEAD           VANADIUM       ALUMINUM       COPPER         ACIDITY GRAN
 NUMBER
          MG/L           MG/L           MG/L           MG/L           MG/L           MG/L           MG/L           UG/L

00074478        0.0004   1DT  0.014          0.128          0.011    <   0.0004          0.106          0.0010          22.10
00074498        0.0004   1DT  0.002          0.018          0.007        0.0008   1DT   0.011    <   0.0003          86.30
00074508        0.0007   1DT  0.014          0.070    <     0.003        0.0008          0.028    <   0.0006          47.50
00074527   <W   0.0010        0.013    <T    0.039    1DT   0.002    <T  0.0004   <T    0.021    1DT 0.0004          50.30
00074540   <W   0.0010        0.012    <T    0.063    1DT   0.008    <T  0.0004   <T    0.028    1DT 0.0004    LG    36.30
00074542   <T   0.0019        0.016          0.058    1DT   0.021    <T  0.0004   <T    0.027    <T  0.0020         112.00
00074556   <W   0.0010   <T   0.012          0.105    1DT   0.030    <T  0.0004   <T    0.026    <T  0.0012          61.20
00074575   <W   0.0010   <T   0.004    <T    0.016    1DT   0.010    <W  0.0001   <T    0.007    1DT 0.0002          83.20
00074593   <W   0.0010   <T   0.004    <T    0.015    <T    0.006    <T  0.0004   <T    0.006    1DT 0.0002          97.60
00074607   <W   0.0010   <T   0.008    <T    0.015    <W    0.002    <T  0.0004   <T    0.008    <T  0.0009          73.30
00074626   <T   0.0004   1DT  0.006    <T    0.017    |BL    ****    <T  0.0002          0.013    <T  0.0009          60.50
00074635   <T   0.0001        0.003    <W    0.006    |BL    ****    <T  0.0003          0.013    <T  0.0008          69.20
00074649   <T   0.0009        0.012    <T    0.042          0.002    UG  0.0005          0.047        0.0021          45.70
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                                                 ONTARIO MINISTRY OF THE ENVIRONMENT
                                            APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                             DATA LISTING
                                                 CUMULATIVE SAMPLING ANALYSIS RESULTS

--------------------------------------- REGION=SW STATION=WILKESPORT MIC TYPE A SITE NO.1 ---------------------------------------

   SAMPLE  SUBMISSION LIS    PROJECT SUB           SAMPLE      EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE     EFFICIENCY
   NUMBER  NUMBER     SAMPLE CODE    PROJECT       REMOVAL     DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                      TYPE           CODE          DATE                 HR     HR           EXP   REM.

  00074473  AP02461     PR     02      01    JAN 26, 1988 DEC 29, 1987  1600   1400    3                  2      25.2      63.19
  00074494  AP02483     PR     02      01    FEB 23, 1988 JAN 26, 1988  1130   1600    3                  2      51.0      46.02
  00074503  AP02533     PR     02      01    MAR 22, 1988 FEB 23, 1988  1530   1730    3                  2       8.0     148.61
  00074522  AP02579     PR     02      01    APR 19, 1988 MAR 22, 1988  1545   1530    3                  2      36.6     102.92
  00074541  AP02620     PR     02      01    MAY 17, 1988 APR 19, 1988  1530   1545    1                  3      40.0     107.88
  00074549  AP02631     PR     02      01    JUN 14, 1988 MAY 17, 1988  1500   1530    1                  3      12.0      41.32
  00074559  AP02679     PR     02      01    JUL 12, 1988 JUN 14, 1988  1400   1500    1                  3      10.0        .
  00074582  AP02721     PR     02      01     AUG 9, 1988 JUL 12, 1988  1600   1400    1                  3      65.0      33.45
  00074588  AP02788     PR     02      01     SEP 6, 1988  AUG 9, 1988  1500   1600    1                  1      37.0      93.73
  00074602  AP02834     PR     02      01     OCT 4, 1988  SEP 6, 1988  1400   1500    1                  1      53.0      82.81
  00074621  AP02886     PR     02      01     NOV 1, 1988  OCT 4, 1988  1500   1400    3                  3      57.0      82.62
  00074630  AP02917     PR     02      01    NOV 29, 1988  NOV 1, 1988  1400   1500    1      1           3     113.0      81.74
  00074644  AP02961            02      01    DEC 28, 1988 NOV 29, 1988  1100   1400    3                  3      11.7        .
   SAMPLE  FIELD    OFFICE   VOLUME         CONDUCT       LAB.PH        ACIDITY.TFE   SULFATE       NITRATE       CALCIUM
   NUMBER  COMMENTS COMMENTS
                             ML             UMHO/CM                                   MG/L          MG/L          MG/L

  00074473                         517            26.50     UG    6.94        ****            4.15          1.04       2.80
  00074494             N           762            37.00           4.46        ****            4.00          1.25       1.34
  00074503             NH          386            25.00           4.83        ****            3.40          0.75       1.12
  00074522                        1223            37.50           4.62        ****            5.40          1.08       1.46
  00074541             H          1401            28.00     UG    6.32        ****            5.55          0.91       1.60
  00074549             NH          161            56.00     UG    5.84        ****      UG   11.80    UG    1.75       2.04
  00074559     E                    ****             ****          ****       ****              ****          ****       ****
  00074582     A       NHM         706        >  100.00     UG    7.51        ****      UG   20.30          1.45       1.96
  00074588                        1126            47.00           4.01        ****            5.80          0.63       0.34
  00074602                        1425        D   28.00           4.20        ****            3.35          0.49       0.32
  00074621                        1531            20.00           4.61        ****            3.25          0.66       0.70
  00074630                        2991            30.00           4.26        ****            2.55          0.43       0.16
  00074644     E                    ****             ****          ****       ****              ****          ****       ****
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                                ONTARIO MINISTRY OF THE ENVIRONMENT
                            APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                           DATA LISTING
                                CUMULATIVE SAMPLING ANALYSIS RESULTS

--------------------------------------- REGION=SW STATION=WILKESPORT MIC TYPE A SITE NO.1 ---------------------------------------

SAMPLE    CHLORIDE       KJELDAHL       MAGNESIUM      POTASSIUM      SODIUM         AMMONIUM       PHOSPHOR       MANGANESE
NUMBER
          MG/L           MG/L           MG/L           MG/L           MG/L           MG/L           MG/L           MG/L

00074473  UG       1.12          0.650          0.400          0.050          0.640          0.400  <T      0.009          0.010
00074494           1.08          1.100          0.265          0.080          0.635          0.670          0.035          0.006
00074503           0.39          0.670          0.190          0.045          0.155          0.420          0.015          0.028
00074522           0.49          0.580          0.250          0.060          0.290          0.970  <T      0.008          0.012
00074541           0.42          1.330          0.335          0.110          0.085          1.150          0.014          0.017
00074549           0.64  UG      3.900          0.415          0.355          0.195  UG      3.090          0.202          0.012
00074559           ****           ****           ****           ****           ****           ****           ****           ****
00074582  UG       1.12  U      13.700          0.690  U       1.690  UG      0.610  U       8.780  U       0.990  <T      0.002
00074588           0.52          0.720          0.065          0.050          0.030          0.666          0.019          0.003
00074602           0.11          0.440          0.050  <T      0.010          0.045          0.425  <W      0.002  <T      0.002
00074621  <W       0.01          0.680          0.140          0.040          0.030          0.646  <T      0.003          0.007
00074630           0.20          0.340          0.030          0.025          0.055          0.330  <W      0.002          0.002
00074644           ****           ****           ****           ****           ****           ****           ****           ****
SAMPLE    NICKEL         ZINC           IRON           LEAD           VANADIUM       ALUMINUM       COPPER         ACIDITY GRAN
NUMBER
          MG/L           MG/L           MG/L           MG/L           MG/L           MG/L           MG/L           UG/L

00074473         0.0013  1DT     0.035          0.093  1DT     0.022         0.0005          0.061         0.0017  LG      17.90
00074494  D      0.0012  1DT     0.028          0.068          0.010         0.0011          0.074  1DT    0.0008          85.80
00074503         0.0012          0.057  UG      0.373          0.023         0.0013          0.121  1DT    0.0013          47.90
00074522  <T     0.0013  <T      0.008  <T      0.014  1DT     0.004  <T     0.0004          0.023  1DT    0.0003          60.00
00074541  <W     0.0010          0.025  <T      0.213  1DT     0.005  <T     0.0004  <T      0.087  1DT    0.0019  LG      21.70
00074549  B      0.0121          0.035          0.094  1DT     0.019         0.0013          0.046  UG     0.0107          28.10
00074559           ****           ****           ****           ****           ****           ****           ****           ****
00074582  <W     0.0010  B       0.083          0.108  <T      0.042  <T     0.0009  <T      0.032         0.0064  LG      21.20
00074588  <W     0.0010  <T      0.007          0.032  1DT     0.018  <T     0.0004  <T      0.009  1DT    0.0003         130.00
00074602  <W     0.0010  1DT     0.001  <T      0.019  <W      0.002  <T     0.0004  <T      0.009  <T     0.0012          93.40
00074621  <T     0.0003  1DT     0.007  <T      0.055  |BL      ****  UG     0.0006          0.041  <T     0.0008          50.70
00074630  <T     0.0002          0.005  <W      0.005  |BL      ****  <T     0.0003          0.015  <T     0.0009          83.90
00074644           ****           ****           ****           ****           ****           ****           ****           ****
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PART VIII

QUéBEC INTERCOMPARISON SITE LISTINGS

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                                          ONTARIO MINISTRY OF THE ENVIRONMENT
                                      APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                      DATA LISTING
                                          CUMULATIVE SAMPLING ANALYSIS RESULTS

---------------------------------------- REGION=Z STATION=SUTTON MIC TYPE A SITE NO.1 ----------------------------------------

 SAMPLE   SUBMISSION LIS    PROJECT SUB          SAMPLE         EXPOSURE SAMPLE SAMPLE PREC. PREC. PREC. GAUGE GAUGE      EFFICIENCY
 NUMBER   NUMBER     SAMPLE CODE    PROJECT      REMOVAL        DATE     END    START  TYPE  AT    AT    TYPE  DEPTH(MM) %
                     TYPE           CODE         DATE                    HR     HR           EXP   REM.

00075305   AP02451     PR      02      01    JAN 26, 1988 DEC 29, 1987  0950   1110    3           1     2      44.0       67.34
00075332   AP02523     PR      02      01    FEB 23, 1988 JAN 26, 1988  0945   1010    3     1     1     2      80.0       43.43
00075350   AP02523     PR      02      01    MAR 22, 1988 FEB 23, 1988  0945   0955    3     1           2      53.7       70.78
00075368   AP02572     PR      02      01    APR 19, 1988 MAR 22, 1988  0850   1000    2                 0      71.3       96.59
00075376   AP02595     PR      02      01    MAY 17, 1988 APR 19, 1988  0945   1000    3                 0       5.0      1375.5
00084123   AP02631     PR      02      01    JUN 14, 1988 MAY 17, 1988  0950   0945    1                 2      29.0       33.50
00075378   AP02703     PR      02      01    JUL 12, 1988 JUN 14, 1988  1000   1000    1                 2     107.0       95.39
00075380   AP02700     PR      02      01     AUG 9, 1988 JUL 12, 1988  0900   1000    1                 1     114.0       85.43
00075381   AP02761     PR      02      01     SEP 6, 1988  AUG 9, 1988  0920   0910    1                 1     160.0       89.32
00075382   AP02823     PR      02      01     OCT 4, 1988  SEP 6, 1988  0950   0930    1                 2      30.9      216.20
00075383   AP02854     PR      02      01     NOV 1, 1988  OCT 4, 1988  0820   1005    3                 *     110.0       54.90
00075384   AP02898     PR      02      01    NOV 29, 1988  NOV 1, 1988  1022   1000    3                 2      90.0      157.76
00075385   AP02940     PR      02      01    DEC 27, 1988 NOV 29, 1988  0947   1035    3                 2      94.0       33.26
 SAMPLE  FIELD    OFFICE   VOLUME        CONDUCT        LAB.PH        ACIDITY.TFE  SULFATE        NITRATE        CALCIUM
 NUMBER  COMMENTS COMMENTS
                           ML            UMHO/CM                                   MG/L           MG/L           MG/L

00075305                       962            22.50           4.35        ****          1.50           0.58             0.22
00075332             N        1128            29.00           4.29        ****          2.00           0.59             0.22
00075350                      1234            40.50           4.12        ****          2.75           0.92             0.26
00075368                      2236            28.50           4.28        ****          2.45           0.59             0.18
00075376    QP       HM       2233       UG   71.50     UG    7.74        ****          5.10           0.52             0.50
00084123             H         316            26.00           4.91        ****          4.00           0.62        UG   0.96
00075378                      3314            22.00           4.37        ****          2.40           0.33             0.18
00075380                      3162            41.00           4.05        ****          4.40           0.49             0.18
00075381                      4640            34.50           4.13        ****          4.05           0.46             0.14
00075382             NHCM     2169            26.00           4.05        ****          3.50           0.42             0.16
00075383    P                 1960            24.00           4.41        ****          1.95           0.50             0.24
00075384    Q        N        4345            10.00           4.72        ****          0.95           0.24             0.12
00075385    Q        N        1002            21.00           4.43        ****          1.85           0.78             0.44
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                                                 ONTARIO MINISTRY OF THE ENVIRONMENT
                                            APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY
                                                             DATA LISTING
                                                 CUMULATIVE SAMPLING ANALYSIS RESULTS

----------------------------------------- REGION=2 STATION=SUTTON MIC TYPE A SITE NO.1 --------------------------------------------

   SAMPLE   CHLORIDE       KJELDAHL       MAGNESIUM       POTASSIUM      SODIUM         AMMONIUM       PHOSPHOR       MANGANESE
   NUMBER
            MG/L           MG/L           MG/L            MG/L           MG/L           MG/L           MG/L           MG/L

  00075305          0.20          0.230    <T    0.020     <W   0.005          0.095          0.120          0.012          0.002
  00075332          0.46          0.290          0.025          0.030          0.110          0.220          0.012          0.002
  00075350          0.23          0.490          0.030          0.030          0.115          0.380          0.013          0.006
  00075368          0.15          0.400          0.030     <T   0.005          0.170          0.350     <T   0.006     <T   0.002
  00075376          0.43    U    10.400          0.055     U    0.875          0.225     U    7.950     U    0.710     <T   0.001
  00084123          0.23          1.280    UG    0.115          0.345          0.080          0.598          0.121     UG   0.017
  00075378          0.07          0.350          0.030          0.030     <T   0.020          0.312     <T   0.006          0.003
  00075380          0.08          0.590          0.030     <T   0.020     <T   0.020          0.502     <T   0.007          0.003
  00075381          0.10          0.460    <T    0.025          0.030     <T   0.020          0.400     <W   0.002     <T   0.002
  00075382   <W     0.01          0.440    <T    0.020     <T   0.020          0.025          0.370     <T   0.003          0.003
  00075383          0.09          0.280          0.035          0.030          0.040          0.260     <W   0.002     <T   0.002
  00075384          0.07          0.180    <T    0.005     <T   0.005          0.030          0.126     <W   0.002          0.001
  00075385          0.27          0.460          0.045     <T   0.020          0.130          0.356     <T   0.006          0.004
   SAMPLE   NICKEL         ZINC           IRON            LEAD           VANADIUM       ALUMINUM       COPPER         ACIDITY GRAN
   NUMBER
            MG/L           MG/L           MG/L            MG/L           MG/L           MG/L           MG/L           UG/L

  00075305       0.0002     1DT  0.006     1DT  0.011     1DT  0.003          0.0005          0.083     1DT 0.0003          75.50
  00075332       0.0002     1DT  0.005     1DT  0.008     1DT  0.016          0.0005    1DT   0.008     <   0.0004          73.90
  00075350       0.0003     1DT  0.006          0.015          0.006          0.0010    1DT   0.009     <   0.0004         101.00
  00075368   <W  0.0010     <T   0.005     <T   0.010     <W   0.001      <T  0.0006    <T    0.007     1DT 0.0002          74.40
  00075376   <W  0.0010     <T   0.017     <T   0.045     1DT  0.005      <T  0.0007    <T    0.026     1DT 0.0004     <T    2.38
  00084123   <W  0.0010          0.016          0.140     1DT  0.032      <   0.0004          0.094     <T  0.0015          44.30
  00075378   <W  0.0010          0.018     <T   0.010     1DT  0.003      <T  0.0004          0.032     <T  0.0004          57.50
  00075380   <T  0.0025     <T   0.002          0.028     1DT  0.005      <T  0.0004          0.037         0.0027          99.50
  00075381   <W  0.0010     <T   0.010          0.034          0.046      <T  0.0004    <T    0.006     1DT 0.0001         104.00
  00075382   <W  0.0010     1DT  0.001     <T   0.012     <W   0.001          0.0035    <T    0.007     <T  0.0012         116.00
  00075383   <W  0.0010     1DT  0.001     <T   0.017     <W   0.002      <T  0.0004    <T    0.008     <T  0.0008          63.30
  00075384   <T  0.0002     1DT  0.002     <W   0.005     |BL      ****   <T  0.0003          0.006     1DT 0.0002          42.60
  00075385   <T  0.0003          0.008     <T   0.023     |BL      ****   UG  0.0006          0.040     <T  0.0010          63.80
^Z
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